PULP & PAPER

OUR 30th YEAR . . . NOVEMBER 1956

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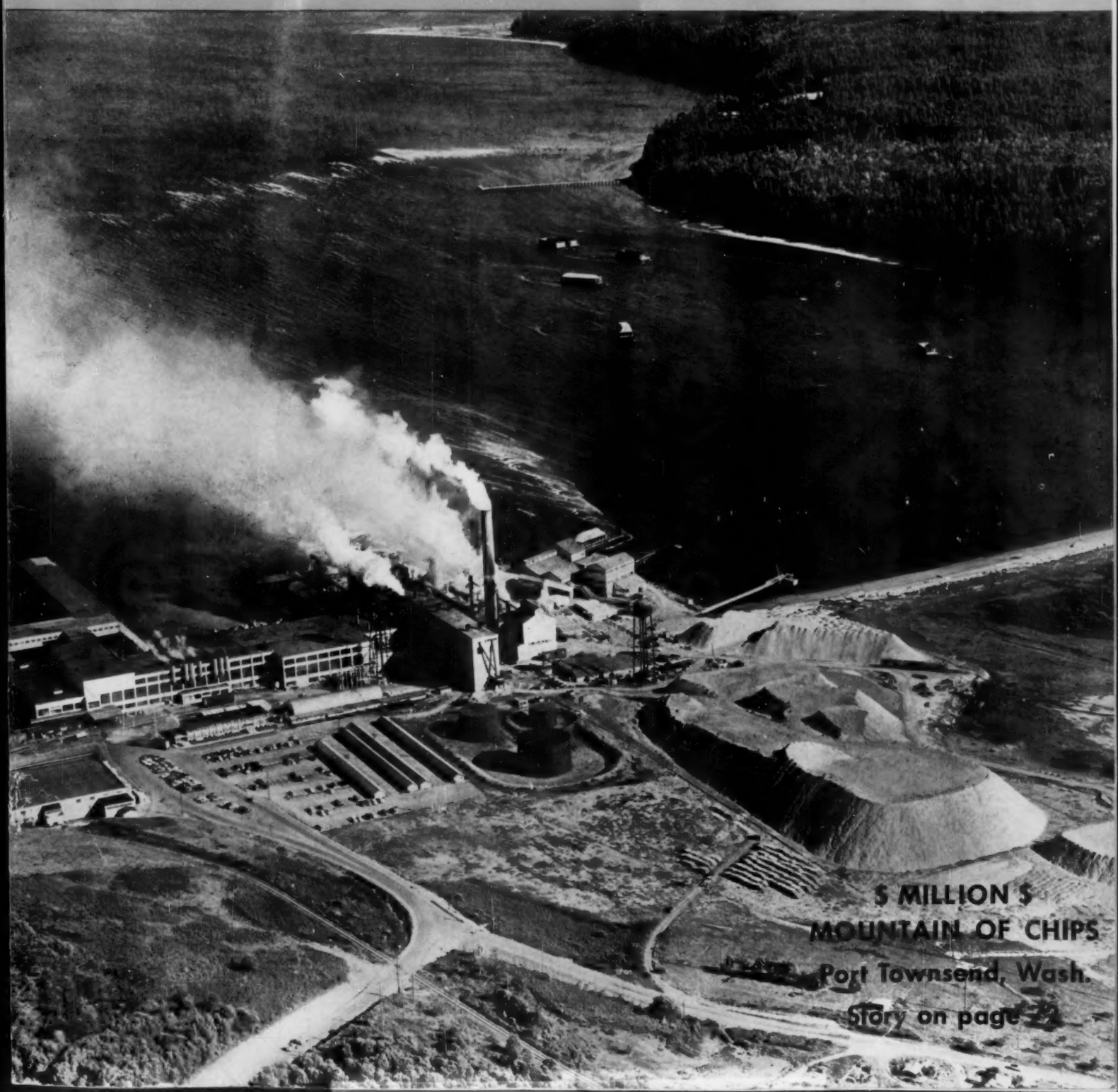
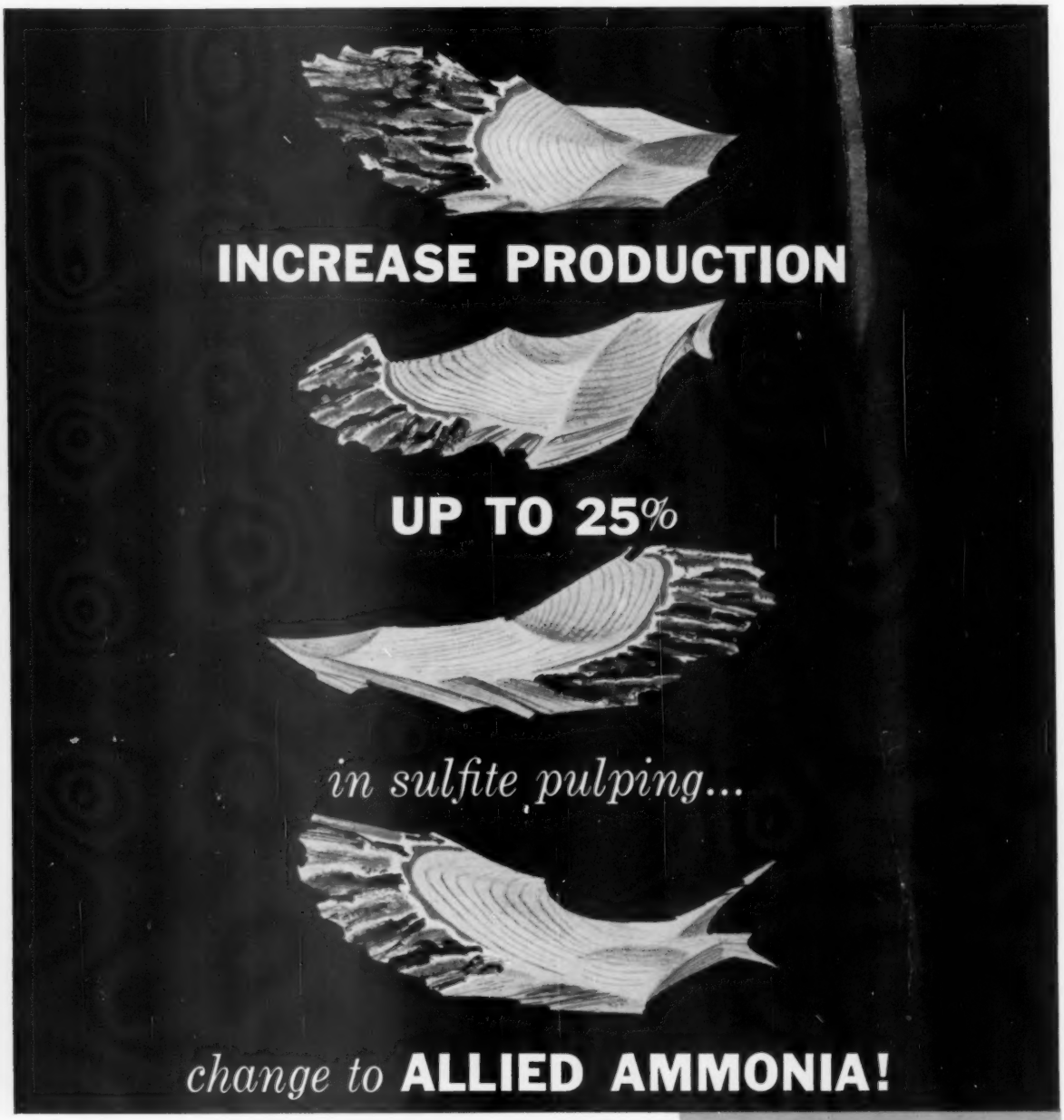


$ MILLION $
MOUNTAIN OF CHIPS
Port Townsend, Wash.
Story on page 72



You can reduce cooking time by 1-2 hours per digester by using AMMONIA base cooking liquor. The reasons: AMMONIA penetrates faster and more thoroughly; combined sulfur dioxide can be lowered, giving greatly increased rate of penetration – without deterioration of pulp quality; and digester contents can be brought up to temperature more rapidly.

Change-over to AMMONIA is easy. Nitrogen Division experts will be glad to show you how it can be done, and to demonstrate the advantages of the process in a trial run at your own plant.

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has other advantages too:

- wider choice of woods
- reduced steam consumption
- improved paper quality
- reduced maintenance costs
- increased yields
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- waste liquor can be evaporated and burned to reduce stream pollution

Dept. AA3-25-2

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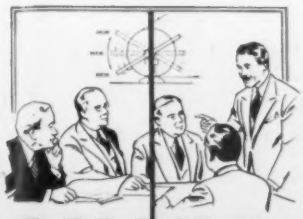

Everybody is talking about the Rice Barton

TRAILING KNIFE COATER

At coating discussions across the nation, the number one subject is the Rice Barton Trailing Knife Coater. Proven by many mills on a wide variety of paper grades, it produces a new high quality of surface levelness at or above today's top paper machine speeds.

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Paper Machine Builders Since 1837

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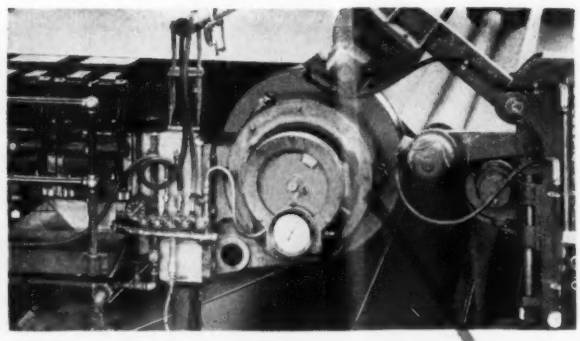
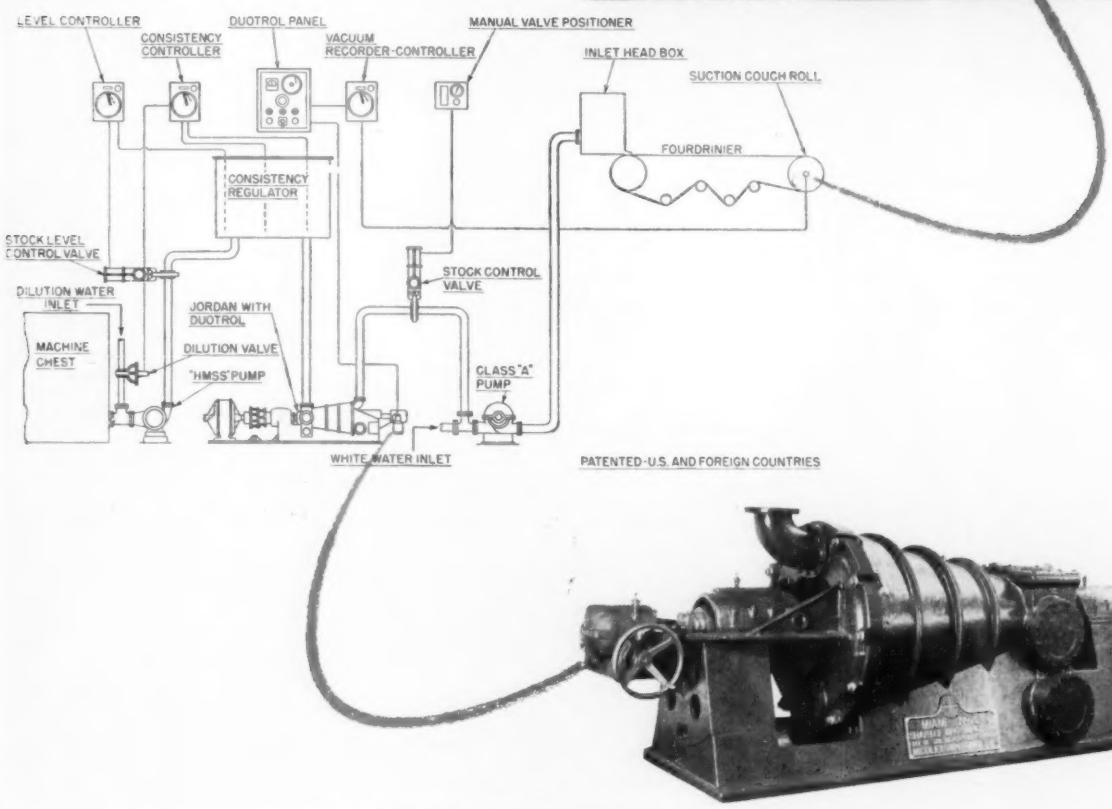
Let the Formation on the Wire Control Your Jordans





With this Black-Clawson system you can make the variations of the vacuum at the suction couch control your jordan plug settings automatically and maintain uniform stock treatment.

Duotrol* plug adjusters on your jordans are sensitive to changes in the vacuum caused by variations in fibre length and freeness of the stock being formed on the wire. The Duotrol units respond by automatically varying the jordan plug settings to compensate for these variations.

You can get a full explanation of the advantages of this system which is being successfully used in many mills. Contact the Shartle Division. *Trademark

The BLACK-CLAWSON Company

SHARTLE DIVISION • MIDDLETOWN, OHIO

November 1956

PULP & PAPER

VOLUME 30
NUMBER 12

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SODA ASH... *better because*

it's chemically pure

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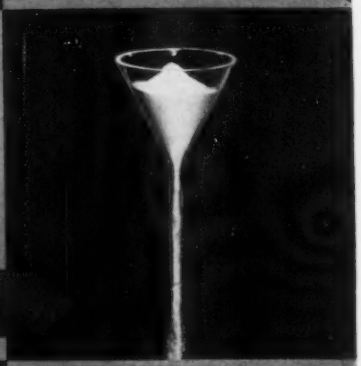

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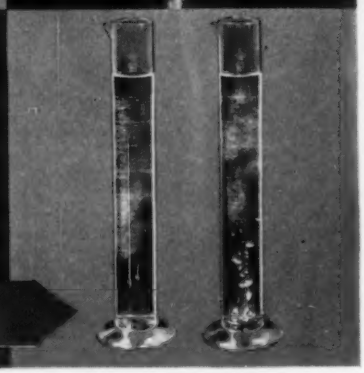

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PULP & PAPER EDITOR READS HIS MAIL

There's a Difference

Portland, Ore.

Editor: Very prominently on the front cover of your August issue is the 4-color picture of the East Texas Pulp & Paper Co. This statement is made: "East Texas Pulp & Paper Co. Complete story with many exclusive pictures of first entirely new company and mill in America since 1930's." I am wondering if you don't consider Western Kraft Corp., Albany, Ore., in this same category.

LOUIS P. GROWNEY
Industrial Development Engineer

Eds. Note—East Texas is a complete mill and operation—from tree to finished product. Western Kraft is entirely new, too, but it is obtaining its chips from various sawmills nearby.

A $5,000,000 Expansion

Pomona, Calif.

Editor: I have read with interest the article in your September issue, regarding California growing as a paper state and we notice that you mention a number of mills but we do not see one word about our mill, Potlatch Forests Inc., in Pomona, 27 miles east of Los Angeles.

This mill has been here for many years and at the present time is making 34,000 tons a year of bleached grades of writing, tissue and other waxing products, and we have a five million dollar expansion program to be in effect late in 1957. I just thought we would like to bring you up to date on the rest of California.

W. J. CULVERHOUSE
Gen. Sales Mgr., Potlatch Forests, Inc. (Calif.)

Mr. Anthony Asks to Share Credit

Newtonville, Mass.

Editor: I have read with very much interest the excellent story on Thilmany Pulp & Paper Co. beginning on page 80 of your September issue, and it was a genuine pleasure to see pictures of, and read about, many of the personnel with whom I have worked during the development of the Venturi-Scrubber which started at Thilmany back in 1946.

I have to try to correct two points regarding the Venturi:

1st, its inventors are two, Dr. Henry F. Johnstone, Dept. of Chemical Engineering, University of Illinois, and the undersigned who did *not* invent it alone as stated on page 82, and

2nd, T. T. "Tex" Collins, Jr., should be mentioned as the development work, testing, etc., were performed under and by him almost entirely, with, of course, assists by many of Thilmany and occasionally by Dr. Johnstone and the undersigned. I was very much surprised that Tex Collins was not mentioned in the closing section on "grads."

A. W. ANTHONY, JR.
President, Pease, Anthony Equipment Co.

Eds. note—We are glad to give Dr. Johnstone and Mr. Collins the credit due them. The reason "Tex" Collins was left out of the list of Thilmany "alumni" is that he is such a new, young "grad." But he belongs there with Erling Riis, Bob Wertheimer and others. "Tex" is now technical director at Hudson Pulp & Paper Co., Palatka, Fla.

Complete Coverage

Evadale, Tex.

Editor: Your issue featuring East Texas Pulp & Paper Co. is outstanding. I cannot recall as complete coverage on any other mill, and particularly the excellent pictorial presentation.

R. M. BUCKLEY, President
East Texas Pulp & Paper Co.

A Fine Balance

Vashon, Wash.

Editor: Your magazine is excellent. You keep a fine balance between news, business and technical.

Pneumatic forming and papers from other fibers than pulp are becoming important. Both phases—the pneumatic and the newer fibers—do not necessarily go hand in hand.

ARTHUR J. NORTON
Consulting Chemist (formerly in New England and more recently in Far West).

(Eds. note—June Voigt, of the Institute, sends her comments in verse.)

IN SCENT IVES

By June Voigt
Institute of Paper Chemistry, Appleton, Wis.

A rose by any other name
Would smell as sweet, they say.
And best to run in battle
To live to fight another day.

I wonder just what might be said
Of the smell of SO_2
That wafts from under the door
Of the Chem. Engineering crew.

Mere words cannot describe the scent—
It's no use to even try.
It's not really that it smells so bad,
Just that it hurts the eye.

It seems to know no boundaries—
Wends its way all down the halls.
So highly potent that it eats
The paint right off the walls.

A fire in a shoe factory—
The smell of burning leather
Compared to that of this stuff
Would be like Highland Heather.

And then when in the canteen room
How good the coffee tastes
When you're breathing in the fumes
Of SO_2 and sulfite wastes.

You'd think that with modern science
That managed to de-scent the skunk
They'd find a way of doing the same
For this gruesome-smelling junk.

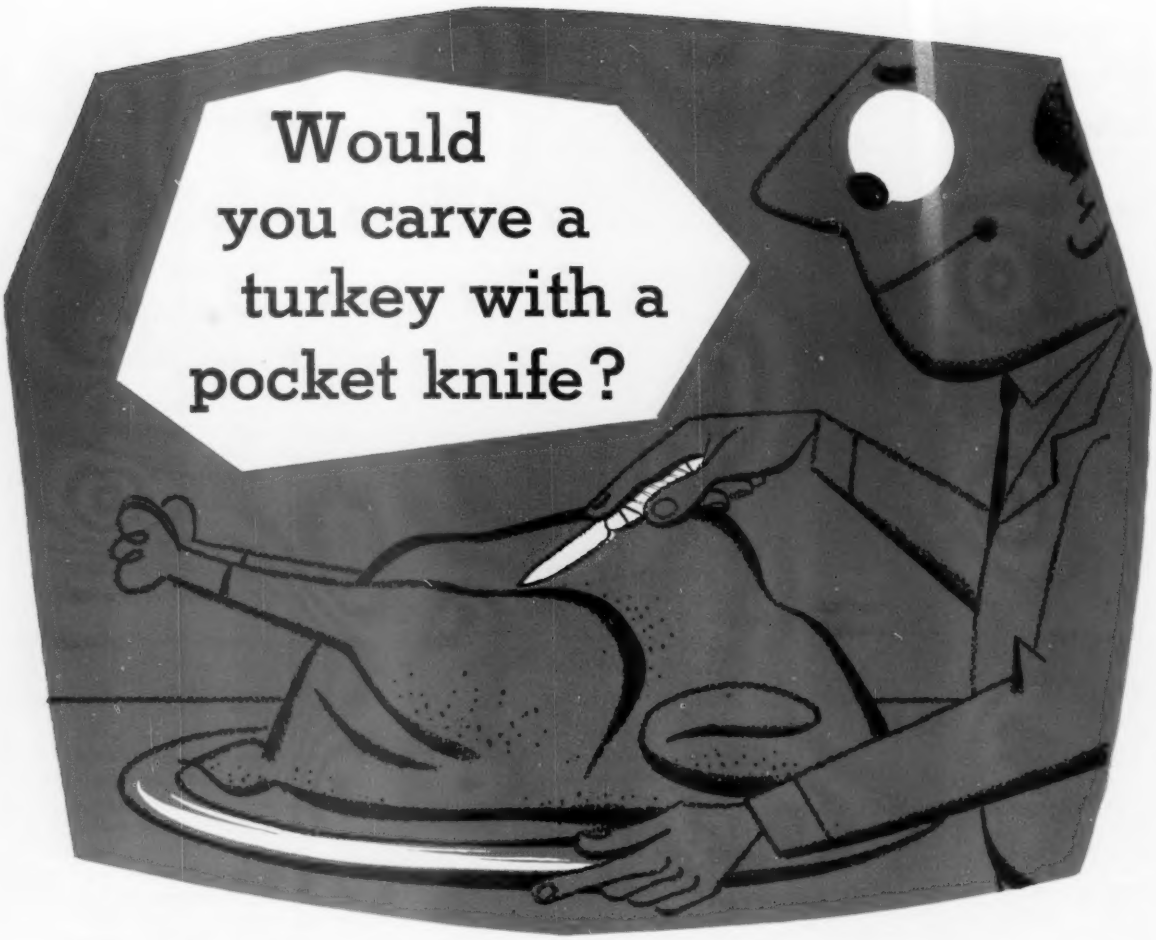
In battle you can run away—
From this no need to try
No matter how far you run
It catches up by and by.

So Chem. Engineers, hear my plea!
Help me out of this deleria—
And send that stuff Air Express
One way-destination Siberia.

HERE'S HOW to address your letter to this department:

No anonymous letters will be considered but names may be withheld if desired.

The Editor
PULP & PAPER
1791 Howard Street
Chicago 26, Illinois



You could, but it's more efficient to use a carving knife. You always get better results with the knife specifically designed for the job. That's why "OK BATTLE AXE" Chipper Knives improve your chipping operation.

They're especially designed to do the job best, to give you maximum production of uniform chips with a minimum of sawdust and splinters.

"OK BATTLE AXE" superiority begins with the selection of special high alloy steel which is thoroughly and evenly hardened in salt bath furnaces, then carefully tempered to produce dependable, durable blades. Extra-keen OK cutting edges hold up longer under high impact loads without chipping or shelling and deliver longer runs between regrindings than ordinary knives.

Stop robbing profit to pay for downtime. Improve your overall chipping operation. Specify ... install ... "OK BATTLE AXE" Chipper Knives. Made to fit all makes of paper mill and saw mill chippers. Many sizes are stocked at Cincinnati, Ohio, and Portland, Oregon.

For complete information on "OK BATTLE AXE" Chipper Knives, write Dept. 46-F.

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CINCINNATI 23, OHIO

Manufacturers of OK HOG KNIVES, VENEER KNIVES, CHIPPER KNIVES, PLANER KNIVES

PULP & PAPER NEWS FROM 'ROUND THE WORLD

BUCKEYE CELLULOSE FORMS EUROPEAN DIVISION . . . A new European division will handle the sales of Buckeye dissolving wood and cotton linter pulps, says C. B. Metz, vice president in charge of sales for Buckeye Cellulose Corp., wholly owned subsidiary of The Procter & Gamble Co.

The European division, to be called the Buckeye Cellulose Division of Procter & Gamble Belge S.A., will be affiliated with the Belgian company and will use facilities already established by P&G in Brussels, where Raoul Cambier is manager. New technical and commercial representatives of the division have been trained at Buckeye's American laboratories and mills.

Buckeye dissolving pulp sales were formerly handled by the Compagnie Commerciale des Celluloses which will continue to sell its woodpulps and bleached cotton linters pulp used in papermaking.

ANOTHER BELOIT MACHINE IN FINLAND . . . The second board machine at Enso-Gutzeit Osakeyhtiö's Kaukopää Mill in Finland has started operation. The wire width of the new machine is 236 in., trim width 216 in. The annual output is about 70,000 tons bleached grades or about 100,000 tons kraft liner. The machine, built for a speed of 1500 fpm, was manufactured by the American company, Beloit Iron Works, and electrical equipment is by Westinghouse Electric International Co.

ESTABLISHES EUROPEAN SUBSIDIARY . . . Thew Shovel Co., Lorain, Ohio, U.S.A., manufacturers of "Lorain" power shovels and cranes has established a wholly-owned Dutch subsidiary for the manufacture and distribution of "Lorain" machines in Europe. The new company is "Lorain Holland, N.V.," and is located in The Hague, Netherlands. Warren B. Weston, director of overseas operations for Thew, is managing director, and F. S. Battin, export sales manager in Lorain is sales manager.

NEW GOVERNMENT MILL IN CEYLON . . . A new paper mill in the Eastern Province of Ceylon, is to come into full operation this year. The plant is being set up by the government and it will be run by a corporation formed by it.

The new mill will use straw and a local grass as its main raw material. Rated capacity is 4,000 tons per year, mainly printing and writing paper. Some kraft bags are to be made from imported kraft pulp.

NEW HARDBOARD PLANT IN BRITAIN . . . Sunbury-on-Thames, P.I.M. Board Co., Ltd., has completed the first fully-automatic hardboard manufacturing plant to be erected in Britain since the war. The new improved Sundeala hardboard will be manufactured entirely from British timber.

NEW EIRE MILL . . . Negotiations are reported in progress between Navan Urban Council, County Meath, Republic of Ireland, and a Philadelphia paper manufacturing concern in connection with the company's proposal to establish a branch paper mill in Eire for the manufacture of tissue paper.

APPOINTS EUROPEAN MANAGER . . . Fischer & Porter Co., Hatboro, Pa., U.S.A., announces appointment of Norbert Weber as European manager. In this newly created position in the company's International Division, Mr. Weber will coordinate engineering, production and sales of four European manufacturing affiliates and nine engineering representatives. He will be based at Fischer-Van Winkel, N. V., The Hague, Netherlands.

FRENCH REPORT PAPER FROM HEMP . . . The French Paper School at the internationally famous University of Grenoble is reported to have developed paper using hemp as a principal raw material. The paper is derived from separating the woody cellulose fibers in hemp stalks by a mechanical process. Newsprint and special papers, including strong packaging, have been produced, according to the report from Grenoble.

ON SEARCH FOR PAPERMAKING EQUIPMENT . . . Guillermo Arelleno Fernandez, Mexican general manager, and Mitchell Thom, native of North Dakota and former Canadian papermaker, who is general supt. of the Empaques de Carton United, Etzatlan 25A, Box 17421, Mexico City, called on PULP & PAPER in Chicago on a tour of U.S. in search of machinery for added production. Mr. Thom, in the last two years, has boosted production at the board mill from 550 to over 700 tons per month. It is a small mill with a 61 in. 5-cylinder machine and a 50 in. 3-cylinder job, and it is contemplated to possibly double output.

GUILLERMO ARELLENO FERNANDEZ (left), General Mgr. of Empaques de Carton United, Mexico City, and MITCHELL THOM (right), former Canadian Supt. who is Gen. Supt. in charge of operations of the Mexican board mill. They were touring U.S.A. recently looking for suitable equipment to provide substantial increased production.

When Mr. Thom first came to this mill from Victoria, B.C., to be supt. over ten years ago, it was making only 8 tons a day. He brought it up to 18, and then departed for Guatemala to start up a unique banana grass mill there. He returned to the Mexico City mill about two years ago.

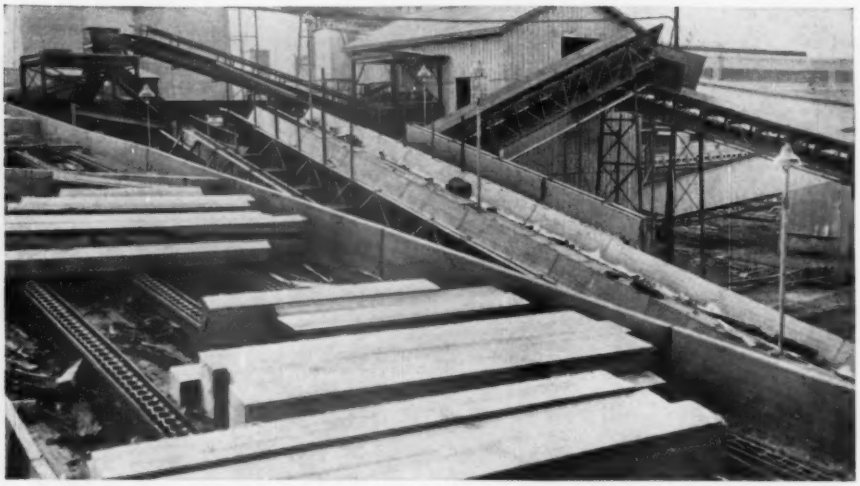
Sr. Arelleno is the national president of the Pulp and Paper Mills Association in Mexico.

NEW NEWSPRINT MILL OKAYED FOR PAKISTAN . . . The Government Planning Board is reported to have approved the $20,000,000 new newsprint mill at Khulna, first reported in PULP & PAPER's WORLD REVIEW NUMBER. Production is scheduled for the middle of 1959, and the mill is expected to have an annual capacity of 23,000 tons of newsprint and 12,000 tons of mechanical and printing paper. Sandwell & Co., Vancouver, Canada, is the engineering firm.

SWEDISH EXPORTS DOWN . . . The volume of total Swedish exports of all kinds decreased by about 25% from the last quarter of last year to the first quarter of this year, according to an official survey.

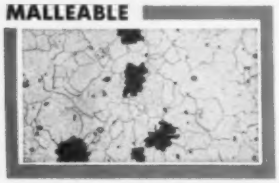
The biggest decrease, compared with the first quarter of 1955, occurred in deliveries of wood goods, which went down by 33%. Exports of both pulp, and paper plus cardboard, decreased by 10%.

Promal chain specified to resist heavy loads and abrasive wear



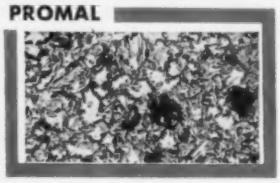
LONGER SERVICE, LOWER CONVEYING COSTS are achieved through the use of Link-Belt Promal Class H pintle chain. Longer-wearing Promal prevents distortion of links under severe impact.

MALLEABLE



MICROPHOTOS show difference between ordinary malleable iron and Promal. Left—white areas in malleable microphoto represent "free iron" . . . black shows soft nodules of carbon. Right—dark areas in Promal structure show stronger, stiffer reinforcing material which strengthens metal; resists distortion, wear.

PROMAL

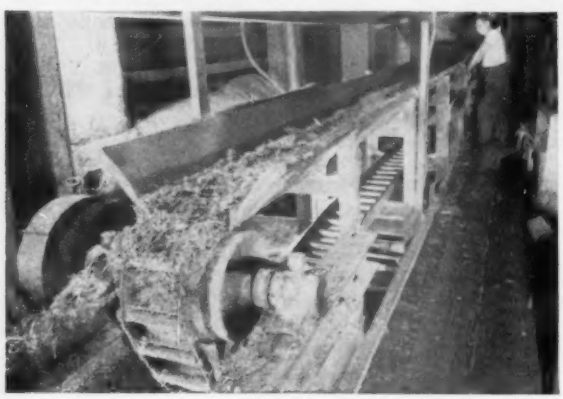


Specially heat-treated malleable iron provides extra wear resistance

Fewer conveyor shutdowns and minimized replacements are economies realized by users of Link-Belt Promal chain. Its greater strength absorbs continuous impact loads — and wear resistance supplies the durability to cope with severe abrasion.

Promal is more than a partially annealed or surface-hardened malleable iron. Developed by Link-Belt, this specially heat-treated malleable iron is actually transformed into a metal of radically different physical properties. Promal, because of uniform micro-structure throughout its whole section, provides greater ultimate strength, higher yield point, exceptional fatigue resistance and a remarkable capacity to withstand abrasive conditions.

For unusually abrasive or mild corrosive conditions, Promal chain can be furnished with "file-hard" surfaces. Copper bearing or special alloy content also available.



H-Class combination drag chain has extra wear surfaces

H-Class combination drag chain for refuse conveyors can be turned over to double service life. Sides and barrels of links are cast integral to resist distortion. Rounded side of barrel offers proper sprocket contact, while the other forms a vertical pushing surface. Accurately machined pitch holes in steel sidebars assure tight press fit. Chain is available in four sizes.

How, where to apply Promal in the pulp and paper industry

Choose Link-Belt Promal chains for highly abrasive conditions—for extra strength and wear resistance demanded by heavy loads or long, sliding conveyors. They last much longer . . . cost but a little more.

The wide range of Link-Belt chains available in Promal includes all types of cast and combination chains.

Special hardening available for highly abrasive conditions

Specially hardened Link-Belt chains and attachments have proved that there's no need to go to more costly cast alloy steel chains for highly abrasive service. See your Link-Belt representative or authorized distributor for specific details.

14,254

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LINK-BELT

CHAINS AND SPROCKETS

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Big Year Seen in 1957, "No Signs of a Downturn"

Business will continue at a high peak in 1957 and the booming construction industry itself will set new all-time records this year and again in 1957, predicts Board Chairman Melvin H. Baker of National Gypsum Co. He termed the industry's long range outlook "staggering." He estimated that by 1965 construction will reach the $53 billion mark—$9 billion above the $44 billion predicted for this year.

"The dollar volume of new highway construction and expansion of privately owned utilities may reach $5.5 billion in 1957," Mr. Baker said. "The most significant gains among utilities probably will occur in railroad, telephone, gas, light and power firms."

He predicted that private spending for new industrial plant expansion, "apart from utilities," may reach $3.3 billion in 1957 against $3 billion predicted for this year. He said school construction would "soar to another record."

Mr. Baker listed these reasons why he believes next year will be another record year:

1. "Most medium and large size corporations are going ahead full speed with expansion programs. . . .
2. "Business is good, with no signs of a downturn.
3. "Unemployment has reached its lowest level ever in peace time. The annual rate of personal income is the highest in history. Average take-home pay is at an all-time high."

CHRISTMAS SALES TO RISE 6% . . . Christmas retail sales will be 6% higher this year, a survey by the Folding Paper Box Assn. reveals. The prediction is based on current orders for folding cartons, an index of future consumer demand. Folding boxes are the most widely used form of packaging, with over 110 billion used annually.

Seventy-five percent of the firms reported greater demand for Christmas packages this year than in 1955. 20% said business would be "about the same" and only 5% anticipated lower holiday sales. Predictions on increases, ranging from 2% in the East to 15% in the Midwest, averaged 6%.

Holiday cartons will have more colors and unusual designs. There will be a sharp increase in use of foil.

NEKOOSA-EDWARDS PAPER CO. EXPANSION . . . A multi-million dollar expansion program at the Nekoosa Wis., kraft mill is underway, with the addition of a new Beloit 145-in. paper machine scheduled for installation in 1958, plans for new woodroom and two new digesters. A chlorine dioxide stage is being added to the Nekoosa kraft bleachery.

Power requirements will be increased and a new steam boiler and electric generator are planned for Nekoosa, too, in addition to the rebuilding and modernization of the entire electrical distribution system. An additional set of vacuum evaporators will most likely be installed in the Nekoosa recovery plant. According to John Alexander, president, the Port Edwards sulfite mill also is scheduled for more modernization.

PRODUCTION INCREASE AT "KAP" . . . Spruce Falls Power & Paper Co. is increasing capacity of its newsprint mill at Kapuskasing, Ont., from 242,700 tons to 291,700 tons as part of a long-term program that will not be completed until 1959. The increased production will be achieved by speeding up two of the four machines so as to raise output to 255,700 tons by 1957 and 278,700 tons by 1958.

Kimberly-Clark Corp. Neenah, Wis., owns 50.12% of the outstanding common stock and the New York Times, which purchases most of its newsprint from Spruce Falls, owns the minority common share interest.

MOVE AHEAD ON BIG LEPREAU NEWSPRINT MILL . . . Prospect of an early start on a $65,000,000 newsprint mill at Lepreau, on New Brunswick's south shore, is described as "very promising" by J. H. Price, general sales manager of Gilman Paper Co., New York.

Mr. Price, who was a Canadian brigade commander during the war, and formerly an executive of Price Bros. & Co., Quebec City, is member of a group representing U. S. and United Kingdom capital interested in the venture. He will head the management committee.

Members of the group recently conferred with New Brunswick's Premier Sanford Flemming and members of his cabinet. Those in the party included Mr. Price, Michael Butler, vice president, Butler Co., Chicago; Edward W. Shobert, general sales manager, Butler Co., Philadelphia; Peter Proske, secretary of the Butler Co. in Chicago; Robert Walter, New York financier; Henry Bubl, New York broker; A. T. Hurter, head of the Montreal engineering firm of Stadler, Hurter & Co., which will design the proposed mill, and E. C. Atkinson, Q. C., New Brunswick attorney.

British and U. S. capital is behind the enterprise, the Robert McAlpine & Sons organization of London representing the British interest and the Butler Co. heading up the organization for the U. S. group. These companies have acquired the charter of the Maritime Pulp & Paper Mills Corp.

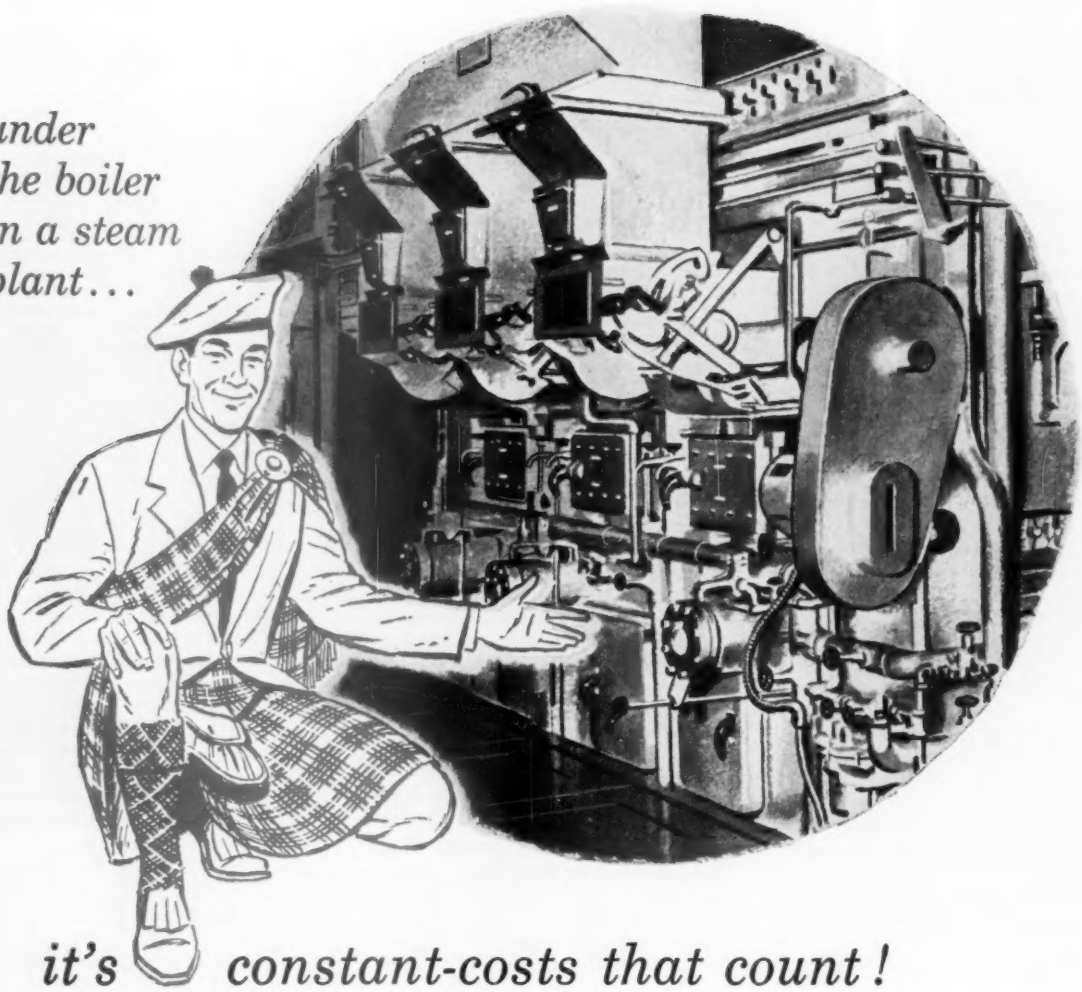
Capacity of the Lepreau mill, according to present plans, is 500-700 tons of kraft newsprint. The output would be taken on a guaranteed basis by a New York newspaper. Annual wood requirements will be more than 300,000 cords, assured through options on southern New Brunswick timberlands.

MACMILLAN & BLOEDEL TO MAKE BAGS . . . MacMillan & Bloedel, which has confined its operations in the industry so far to production of bleached and unbleached sulfate pulp, lumber and plywood, is building a $500,000 plant on the north arm of the Fraser River near New Westminister, B. C., to manufacture 200,000,000 grocery bags per year.

It will convert part of the production of a new 180 tons per day kraft paper and board machine, soon to be in operation at the company's Port

IN THE PARLANCE OF THE INVESTMENT WORLD, "Growth Industry" is a term used to differentiate certain industries from those which, by their very nature, are necessarily static, others that are speculative, etc. It has only been in recent years that most of the investment world has recognized pulp and paper as a genuine "Growth Industry." Its planning is longterm, its markets and uses are basic, they keep increasing, and it is the only major industry based upon a renewable resource—trees. Depressions may come and go—they will never wipe out trees.

under the boiler in a steam plant...



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NEWS OF THIS "GROWTH INDUSTRY"

Alberni, B. C., division.

MacMillan & Bloedel will soon move into the newsprint field. Its new mill at Port Alberni is nearing completion.

GEORGIA-PACIFIC TO ACQUIRE ANOTHER LUMBER CO. . . . Georgia-Pacific Corp., Portland, Ore., has filed with SEC for issuance of additional stock to acquire assets of Hammond Lumber Co. The option for purchasing the California redwood firm was expected to be acted upon by November. Hammond has plants at Eureka and Samoa, Calif., with capacity for producing 100 million ft. of lumber annually, and owns some four billion bd. ft. of timber.

G-P acquired a like amount of timber in the coastal area of Coos Bay, Ore. last summer with its $70 million purchase of Coos Bay Lumber Co. Prior to completing this transaction the Georgia-Pacific Paper Co. was established as a wholly owned subsidiary and construction of a 250-ton kraft mill at Toledo, Ore., was launched.

Pres. Owen R. Cheatham, G-P Corp., recently pointed out, the feasibility of pulp and paper operations at Coos Bay and Eureka is under long-range study. These prospects are, of course, in addition to the organization's interest in the possible construction of a pulp mill in the area of Juneau, Alaska where the company was successful bidder on some seven billion board feet of federal timber.

Although the Toledo project met with considerable opposition from various fish and oyster interests, it now has the "hearty approval" of these groups. The change resulted from G-P's decision to pipe effluents, both weak and strong, from the mill directly to the ocean instead of discharging any in lower Yaquina Bay. Sandwell & Co., Ltd., consulting engineering firm of Seattle and Vancouver, B.C., prepared the mill plans.

MAJOR EXPANSION BY WEST VIRGINIA . . . Mill expansion at Luke, Md., calls for expenditure of about $50,000,000 over the next few years, announces West Virginia Pulp and Paper Co.'s president, David L. Luke, Jr. Largest ever undertaken by the company at one location, the program will transform Luke into one of the most modern and efficient mills. Plans call for two 246-in. wide paper machines, capable of running at maximum speeds of 2500 fpm, one producing coated and the other uncoated papers. These new machines will ultimately boost Luke's production to more than 800 tons a day, roughly double present capacity.

The program includes expansion of woodyard and chip house operations and additions to washing, screening and bleaching. There will be more digesters, a new evaporator, a high-pressure recovery smelter, and a new lime kiln. A new turbine and boiler will be installed.

Historically, the Luke mill is the keystone of the company. It was founded by Scottish papermaker William Luke and two of his sons in 1888.

PROCTER & GAMBLE TO BUY CHARMIN MILLS . . . Procter & Gamble Co. is planning to broaden its products line by acquiring Charmin Paper Mills, Inc., Green Bay, Wis., producer of facial tissues, paper towels, bathroom tissues and paper napkins for household and industrial use.

John M. Conway, president of Charmin, announced negotiations have practically been completed for the sale of its assets to Procter & Gamble.

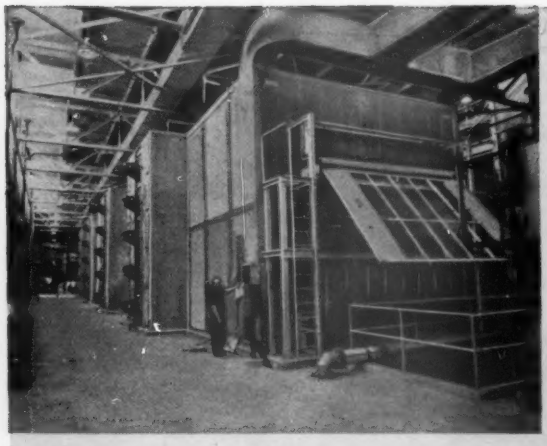
P&G is producing through its subsidiary, Buckeye Cellulose, chemical dissolving pulp from cotton linters at Memphis, Tenn., and also has a mill at Foley, Fla., for producing dissolving pulp and paper grade pulp from wood.

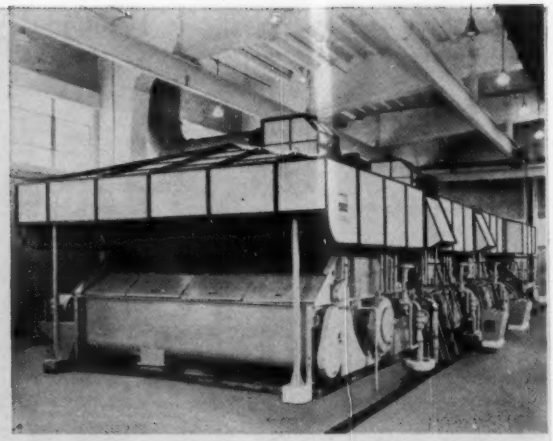
Charmin has sulfite pulp facilities, a complete papermaking and converting mill, and research laboratories in Green Bay. It also has a groundwood mill at West De Pere, Wis., and an additional groundwood pulp and paper mill not yet in production at Cheboygan, Mich.

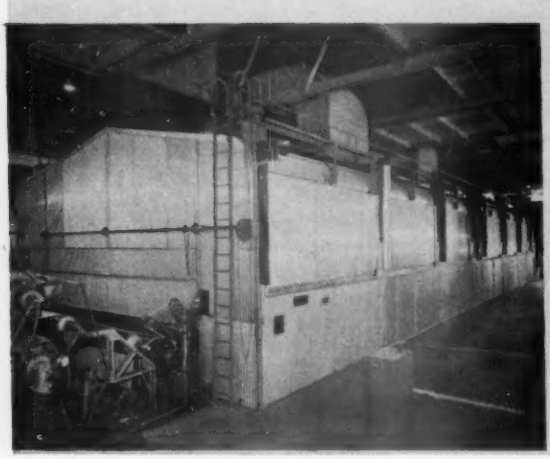
FARMERS REAP $130 MILLION ANNUALLY FROM WOOD . . . Pulp and paper, primarily, and other forest industries are providing U. S. farmers with a market for more than $130 million worth of forest products harvested from farm woodlots annually. The U. S. Dept. of Agriculture census, just released, covering 1954, shows farmers in the South Atlantic states earned nearly $41 million. The Pacific states followed with $23 million. Leading individual states were Georgia and Oregon, each with farm woodlot income exceeding $14 million.

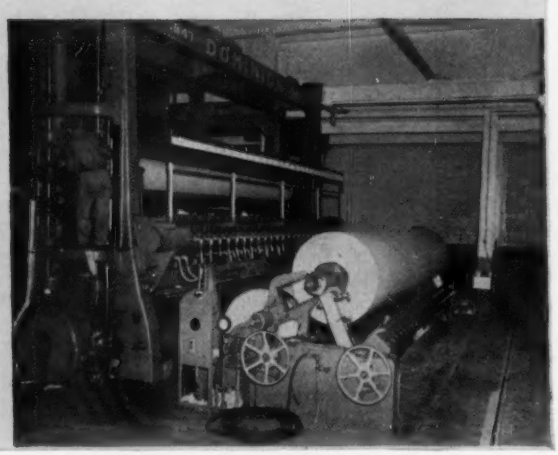
IP COMPLETES NATCHEZ ADDITIONS . . . A multi-million dollar project to increase production and improve quality has been completed at International Paper's Natchez mill. Included were: a fifth recovery boiler and stack, third lime kiln and stack, five new water wells, battery of Centri-Cleaners, extension of white water reclaimer, third evaporator system and

FIRST IN ALASKA . . . Ketchikan Pulp Co. has placed into service the first Washington Iron Works Trakloader ever delivered for Alaska logging service. It is a Model TL-15, now loading pulpwood logs onto off-highway trucks at Hollis, KPC's big camp on Prince of Wales Island. Trakloaders are well-known in pulpwood logging service on the west coast of Oregon, Washington and British Columbia. Scene here is loading the Trakloader onto a barge at Seattle.









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What these ROSS Systems have meant for the industry can be measured by the fact that more than 95% of the industry's mills are using ROSS Systems. With the industry, ROSS engineers will continue to search for the new and the better.

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NEWS OF THIS "GROWTH INDUSTRY"

additional caustic equipment, two new digesters, extension of bleach plant and No. 2 machine chest. An office and records building was also completed. The program began in Jan. 1955.

ANOTHER FOR ST. REGIS . . . St. Regis Paper Co. has acquired the capital stock of Cambridge Corrugated Box Co., Cambridge, Ohio. The box company manufactures corrugated boxes used in the shipping of industrial products. Cambridge will operate as a subsidiary of St. Regis Container Corp.

PAPER "TAIL" WILL NOW WAG THE "DOG" . . . Thor Corp. has decided to change the name of the company to Allied Paper Corp. Arnold H. Maremont, Thor board chairman, said Thor is now primarily active in the paper industry since buying Allied mills in Kalamazoo and leasing the St. Regis Kalamazoo mill, so it prefers a name more closely identified with "major occupation."

Thor was long identified as a manufacturer of major appliances, but in an "asset conversion" program, balancing its holdings with more profitable paper interests, it has become the eighth largest producer of book and specialty papers.

Entrance into the paper manufacturing industry has been a major factor in the company's increased profits picture, Mr. Maremont said. Thor reported a net profit of $1,636,287 for the first six months of 1956 as compared with a net loss of $166,215 for the corresponding period of 1955.

"The paper business is one of America's great growth industries," Mr. Maremont states, "and we are in the paper business in a big way."

RIEGEL ADDS MACHINE, JOINS NATIONAL PAPERBOARD ASSN. . . . Riegel Paper Corp. has joined the National Paperboard Association, Albert W. Luhrs, executive manager of NPA announces.

Riegel has paper mills in New Jersey at Milford, Riegelsville, Hughesville, and Warren Glen, as well as a pulp mill in Acme, N. C.

A new specialty paperboard machine is now being constructed at their Acme location in order to increase the company's board production.

MILL CREWS SET RECORD . . . No. 3 paper machine in the International Falls mill of M&O Paper Co., is back in full production after modernization of the wet end was completed in the record time of eight days. William Schlafge, general manager of M&O's Falls division, said that management was well satisfied with the remodeling project, which involved all the maintenance crafts, whose members worked on an around-the-clock schedule.

New equipment included a headbox which will make it possible to increase the speed of the machine up to 1,200 fpm; a new slice; four new Bird screens; new Bauer Centri-Cleaners; and a mixing pump which will handle 7,500 gal. of water per min., compared to the 4,000-gal. capacity of the old one. Changes were also made in the Fourdrinier section, and the couch roll was raised. Alterations were made in the wire pit and in the press section.

The headbox and slice were manufactured by Valley Iron Works. Mando fabricated all the piping and frames and headers for the cleaners. The Bird screen base was built prior to the shutdown.

No. 3 machine, which produces all types of groundwood specialty papers, was completely remodeled at the dry end in the spring of 1953. At that time its length was increased by 40 ft., most of which was due to addition of ten new dryer rolls. Also added were facilities for tub-sizing between the second and third press sections.

NCC MERGER WITH OWENS-ILLINOIS . . . Merger of Owens-Illinois Glass Co. and National Container Corp. has been approved by shareholders of both companies. The business of National Container will be operated under that name as a wholly-owned subsidiary of Owens-Illinois.

$4,000,000 BAG PLANT FOR BOGALUSA . . . Crown Zellerbach Corp. will build a $4 million bag plant at Bogalusa, La., near its present Gaylord paper mill, to make multiwall bags for an expanding national market. The new $2.5 million bag plant at Antioch, Calif., alongside the new paper mill there, which started up in October, is increasing bag production in the West. The new Bogalusa plant will make a full line of bags, including those with special polyethylene linings and patented designs to prevent such fine materials as carbon black from filtering through the walls.

The Bogalusa bag plant will be on one floor, about 350 ft. wide by 600 ft. long; its exterior will be pre-cast concrete panels. Construction begins in December, with startup next fall. The plant will run bag-tubing machines and such auxiliary equipment as bottomers, presses, sewing and paste-making machines.

TWO COMPANIES VIE FOR MILL SITES . . . Two companies are seeking sites in British Columbia's Peace River country for pulp mills, according to provincial Minister of Lands and Forests Ray Williston. One company is planning to spend $20,000,000 on a mill if it can get a forest management license. The other would not be dependent on a license as it would obtain its pulpwood from independent loggers working on contract.

Both groups, according to Mr. Williston, are already engaged in the forest industry on a large scale in British Columbia. He believes completion of the Pacific Great Eastern Railway to Peace River valley by next year will hasten development of the industry in that northern part of the province.

NEW POWER UNITS FOR INTERNATIONAL FALLS . . . Minnesota & Ontario Paper Co.'s big high pressure boiler project at the Falls was due for a test run or "shakedown operation" in late October. All boiler pressure parts were complete and placed under hydrostatic tests.

Work on the boiler auxiliary equipment has been completed. This includes forced draft and induced draft fans, pulverizers, boiler feed pumps, deaerator heater and air compressor. The 123-foot high stack which rises from the boiler house floor was finished. It is lined with gunite concrete lining. A new topping turbine and auxiliary equipment is installed. The 6,250 kw turbine will be operated in conjunction with the new boiler.

Another associated project is a Cochrane demineralizer plant for preparing boiler feed water. This is located in the filtration plant, because the unit requires high quality filtrated water, and because of the sufficient space available in the filtration building.

THILMANY WILL BUILD $100,000 WAREHOUSE . . . Thilmany Pulp & Paper Co., Kaukauna, Wis., is constructing a 2-story combined warehouse and storeroom at its Lower Mill, where the manufacture of pulp and paper is carried on. (Upper Mill is converting.)

The building will cost $100,000. This new warehouse facility is the

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NEWS OF THIS "GROWTH INDUSTRY"

third one for Thilmany in two years. Already in progress is construction of the housing for the company's new Black-Clawson 165-in. Yankee Fourdrinier which will incorporate the largest MG-dryer on this continent, imported from England. Also under construction is a new boilerhouse to house a new cyclone-fired B&W boiler.

The new warehouse will be of concrete block construction, with a pre-cast concrete roof with steel supporting members. A new single story warehouse at the Lower Mill was completed this spring.

ST. REGIS PLANS MONTANA MILL . . . St. Regis Paper Co. will construct a pulp and paper mill of 400 tons daily capacity in western Montana on property owned by J. Neils Lumber Co., of Portland, Ore., if a merger with Neils goes through.

Roy K. Ferguson, president and chairman of St. Regis, said acquisition of Neils requires agreement by holders of 95% of that concern's outstanding 300,000 shares to acceptance of an exchange offer for St. Regis stock. However, he said, St. Regis may declare the transaction completed if 80% of Neils' stockholders accept the offer of 2½ shares of St. Regis for each share of Neils. Over 50% had approved in early October.

The proposed mill would be built in Montana where Neils owns 200,000 acres of timberland (mostly virgin timber) in the vicinity of the Kootenai River in the western part of the state. The company also owns 100,000 more acres of timberlands in the Klickitat River region of Washington state.

Neils currently has net sales of timber and lumber of $19 million annually, according to Paul Neils, president. It operates sawmills in Klickitat, Wash., and Libby and Troy, Mont. These mills will install log barkers and chippers if the merger is approved. Neils has a logging railroad, fleet of trucks and hundreds of miles of logging roads.

BERGSTROM PAPER TO BUILD NEW OFFICE . . . Bergstrom Paper Co. is constructing a new main office building adjacent to its new finishing plant south of Neenah, Wis., on Highway 41. The new office will provide 8,000 sq. ft. of working space and will cost $200,000.

N. H. Bergstrom, company president, said, "If it sounds as though we're in a hurry, we are. Present office space is filled to overflowing." The new buildings are scheduled for completion in the spring of 1957.

"WRONG WAY" RAYONIER PULP . . . Another economic platitude bit the dust when Rayonier Inc. announced it is now selling "substantial tonnages" of an advanced, new chemical cellulose to Sweden, historically a world supplier of chemical grades of wood pulp for cellophane, plastics, textiles and other growth cellulosics.

PERMIT ISSUED FOR ADDITION TO TISSUE MILL . . . The owners of Steiner Sales Co., 740 Rush St., Chicago, will construct a $38,000 addition to Badger Tissue Mills, Kaukauna, Wis., a subsidiary of the company. The new addition will be 94 by 105 ft. of cement block construction and will be located south of the present building.

SHORT NOTES ON SOUTHERN EXPANSION . . . New Fourdrinier board machine and Pandia continuous digester have been installed and are operating at National Gypsum's Mobile mill . . . A Dravo-DeLaval lubrication system providing a metered flow of 80 gpm of 900 SSU oil at 100° F. will supply the 80 paper dryers and calender stacks of Dierks Paper Co'.s 166-in. Fourdrinier machine in its new Pine Bluff, Ark., mill . . . Sutherland Paper Co. of Kalamazoo, Mich., has filed for a 90-day extension of its option on 1,733 acres of land near Augusta, Ga.—proposed site for a $50 million pulp and paper mill. Option expired Aug. 28 . . . Arthur Schultz, paper mill supt. at Camp Mfg. Co., told PULP & PAPER during a recent visit about the new Beloit Fourdrinier machine now on order as part of the $18 million expansion planned at the Franklin, Va., mill. Production at the Union Bag-Camp paper mill will be upped from its present 380 tons to more than 600 tons a day, said Schultz. Union Bag-Camp is also considering Clarence, La., as a possible site for a new pulp and paper mill. Company already has an option on property near New Bern, N. C., as a possible site for a new integrated operation . . . National Container Corp. at Jacksonville has begun work on its $25 million expansion program, expected to up production to 900 tons a day—twice its present capacity. Vice Pres. Bill Webster, recently returned from Europe where he studied mills in Scandinavia and elsewhere, will direct the big job. A new type continuous digester may be part of the expansion.

CONSTRUCTION OF NEW GULF STATES PAPER CORP. MARKET KRAFT PULP MILL at Demopolis, Ala., involves excavating approximately 200,000 cys. of sand, clay and selma chalk. General contractor is H. K. Ferguson Co., Cleveland, using this 61-ton Lorain 820KS with 60 ft. of boom and 2½-yd. Hendrix dragline bucket to excavate drainage ditches, basements and footers, and for service road grading and construction of a dam. The Lorain is owned by Bert Branch Equipment Rental of Mobile.

Memo to Readers

"Strictly Personal" news of people in our industry has moved to the back of the book. Look for it on page 145.

CONKEY EQUIPMENT

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Conkey evaporators, such as the sextuple effect evaporator above, are providing pulp and paper mill operators everywhere with proof of performance in profits . . . *economical evaporation records that stand out.*

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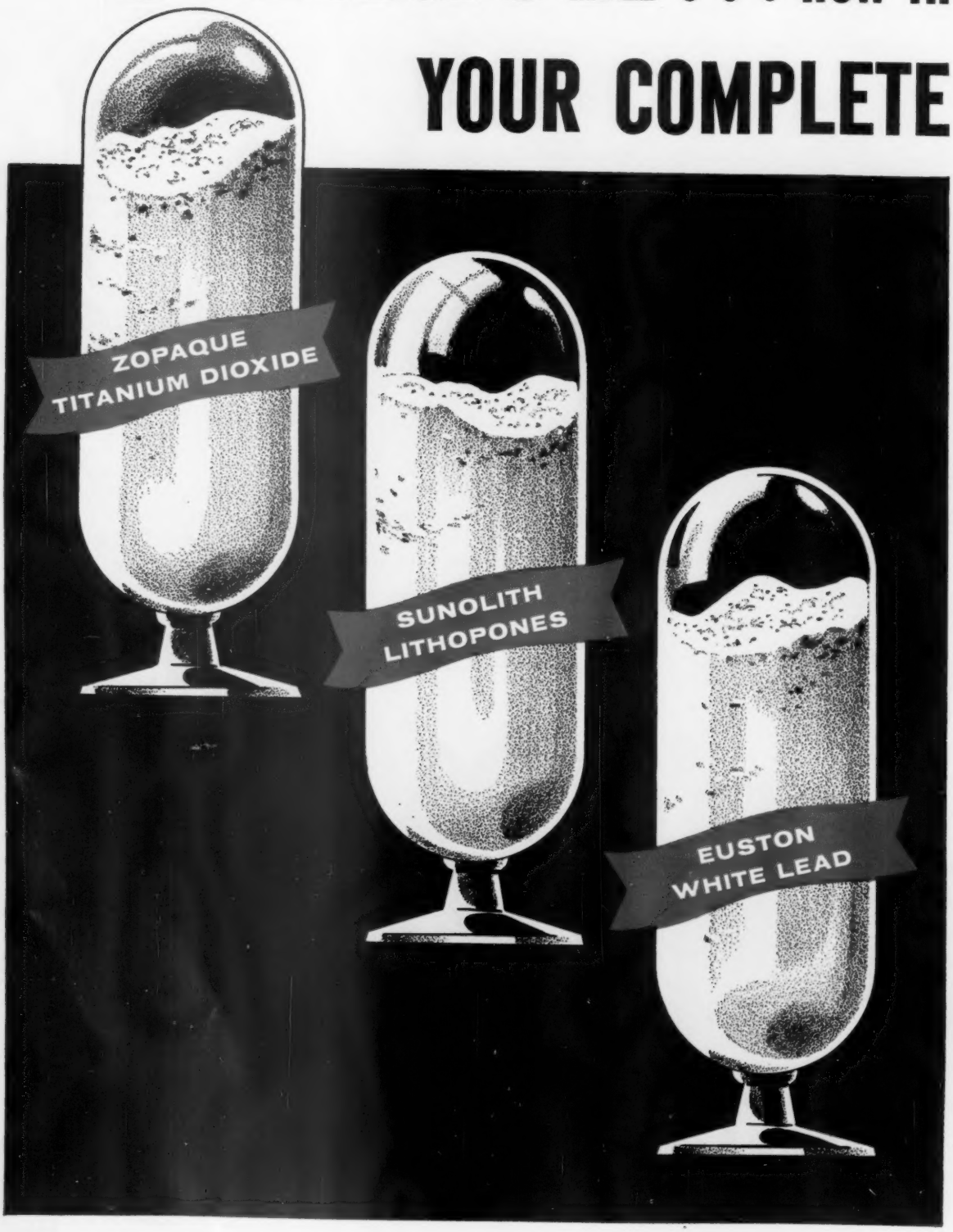

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SCRANTON, PENNSYLVANIA

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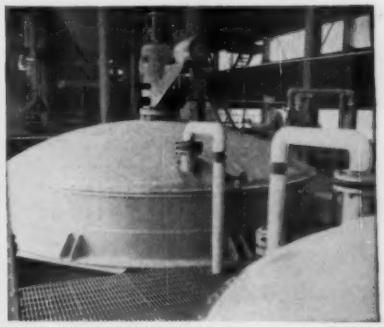
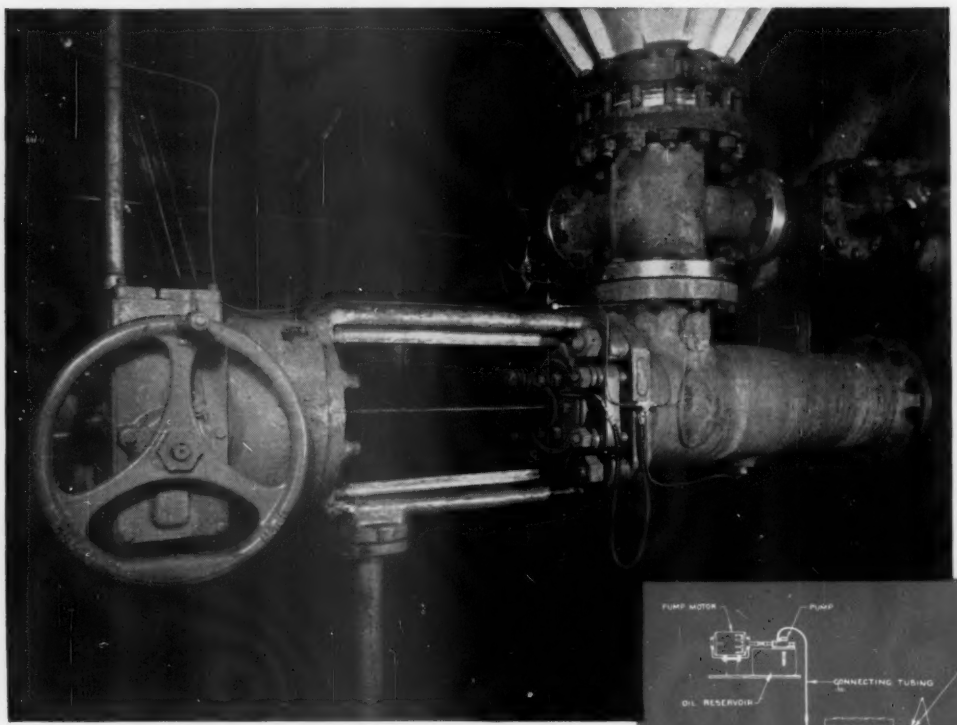
Highest quality basic lead carbonate available



Continuous research and development at Euston Lead Division, Scranton, Pennsylvania, produce white lead of highest purity and quality. EUSTON White Lead has lower oil absorption than other white pigments. Finer, more uniform particles assure rapid solution, exceptional suspension. Various grades.

YARWAY DIGESTER BLOW VALVES with AUTOMATIC LUBRICATION



One of a battery of Yarway Digester Blow Valves, motor-operated, with automatic lubricators, in a large Washington pulp mill.

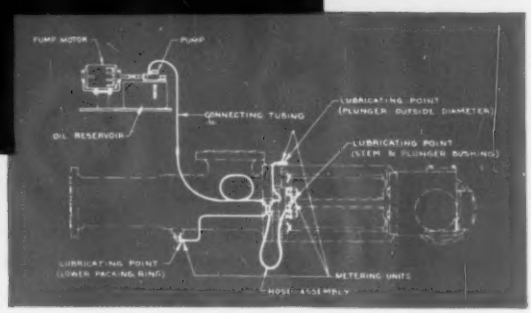


Diagram showing arrangement of Yarway Automatic Lubricator on Yarway Digester Blow Valve.

..help increase production, cut maintenance and save manpower

Automatic lubricators on Yarway Seatless Digester Blow Valves add new cost-saving and labor saving features to digester operation.

Push-button control of these valves also provides automatic lubrication of them at the *right* places . . . at the *right* time. Result—less maintenance, fewer production delays, release of manpower for other productive work.

Reports on low operating cost experiences from pulp mills using Yarway Digester Valves, are impressive, too. One large mill found the resultant *savings in operation and maintenance the first year more than paid for the cost of their new 4 Yarway Digester Valves.*

Yarway Seatless Digester Blow Valves are either motor or hydraulically operated. All are remote controlled—designed for clean, free discharge and tight shut-off.

For full information on Yarway Seatless Digester Blow Valves, write for Bulletin B-441. No obligation.

YARNALL-WARING COMPANY
103 Mermaid Ave., Philadelphia 18, Pa.
BRANCH OFFICES IN PRINCIPAL CITIES

YARWAY **DIGESTER BLOW VALVES**

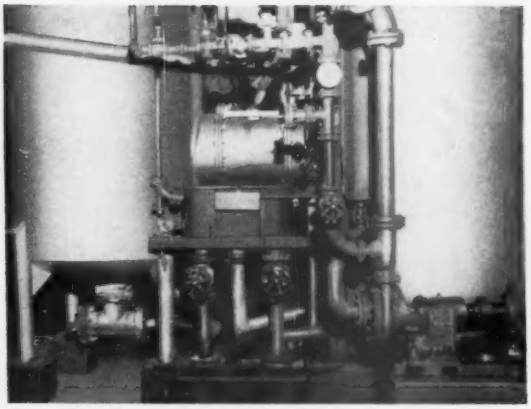
inlet and headbox
fourdrinier section
press and yankee dryer section
by VALLEY
VALLEY IRON WORKS CO., APPLETON, WISCONSIN
Canadian Representative: Pulp & Paper Mill Accessories Ltd.,
P. O. Box 903, Station "O", Montreal 9, Quebec

Low SO_2 Loss

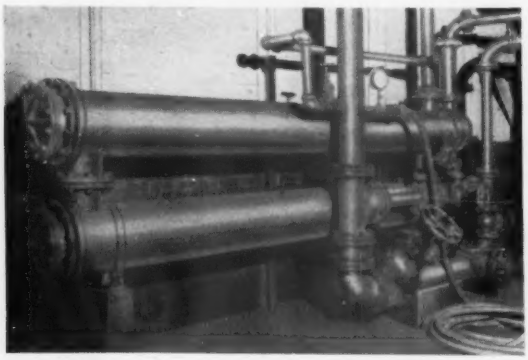
Low SO_3 Formation

Low Water Consumption

with the Chemipulp-K.C. Spray-Type SO_2 Gas Cooling System



Chemipulp-KC Spray Type SO_2 Gas Cooler at Franconia Paper Corp. Primary tower at left, secondary tower at right, weir box and circulating pump in center



Heat Exchanger used with the SO_2 gas cooler

These illustrations show the spray-type SO_2 gas cooler which helps the Franconia Paper Corp., Lincoln, N. H., maintain the quality of its Profile Offset, Franconia Bond, Pressmans Bond and other fine papers.

The system consists of a primary and secondary spray tower, heat exchanger, circulating pump and weir box for water level control. Hot gas from the sulphur burner enters the top of the primary tower where it is sprayed with cooling water. The temperature of the gas is instantly dropped through the critical range of SO_3 formation so that very little SO_3 is formed. Most of any SO_3 which may be produced is absorbed by the cooling water and overflowed to the sewer. Practically no SO_2 is wasted.

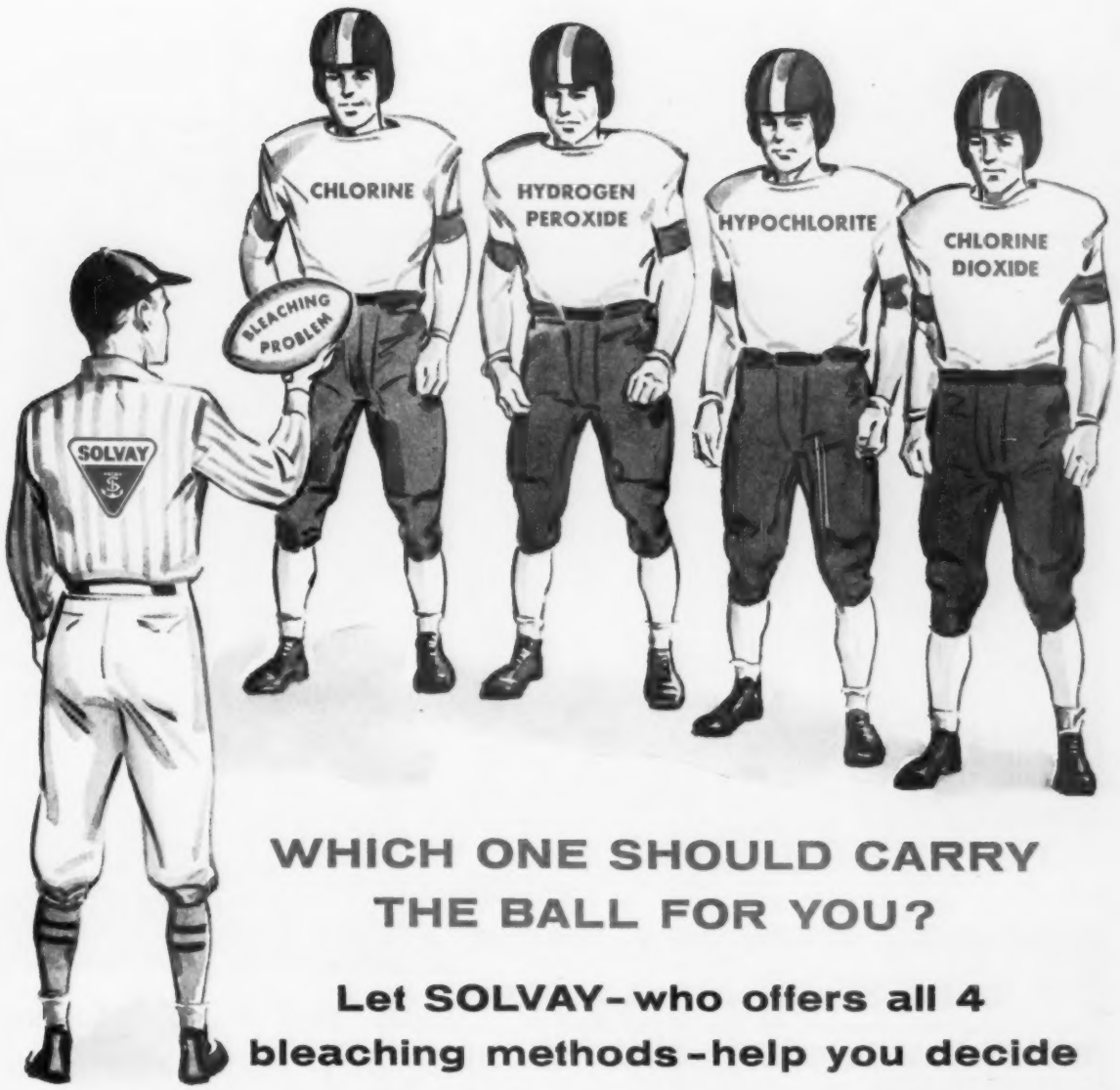
The cooling is completed by a spray in the secondary tower. This cooling water, which carries some SO_2, is passed through the heat exchanger and recirculated through the tower. Part of this water is also used for primary tower spray, and make-up water is automatically added in the weir box. In case of power failure or stoppage of the circulating pump, fresh water is automatically supplied to the primary tower to prevent overheating. Final temperature of SO_2 gas leaving secondary tower is within 10° F. of the temperature of the cooling water.

The system occupies little space, is free from leaks, and is easily maintained. The men have a clean, dry place to work. Very little make-up water is required, and the hot water from the heat exchanger can be used for pulp washing and similar purposes.

Chemipulp Process Inc. Watertown, N. Y.

Associated with Chemipulp Process Ltd., 430 Crescent Bldg., Montreal

Pacific Coast Representative, A. H. Lundberg, 308 Orpheum Bldg., Seattle 1, Wash.



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Let SOLVAY–who offers all 4 bleaching methods–help you decide

Now with the addition of Hydrogen Peroxide to its line, SOLVAY is in a position to offer you unbiased recommendations for the method or methods of bleaching which would be best suited to your operation.

But objective counsel is only one reason for seeing SOLVAY. Besides supplying products that have set the industry's quality standards for over 75 years, SOLVAY helps you get the most out of these products . . . through authoritative literature, practical application aid by field technicians and the research facilities of the world's largest alkali laboratories. All are at your service–at no extra cost–through SOLVAY Technical Service.

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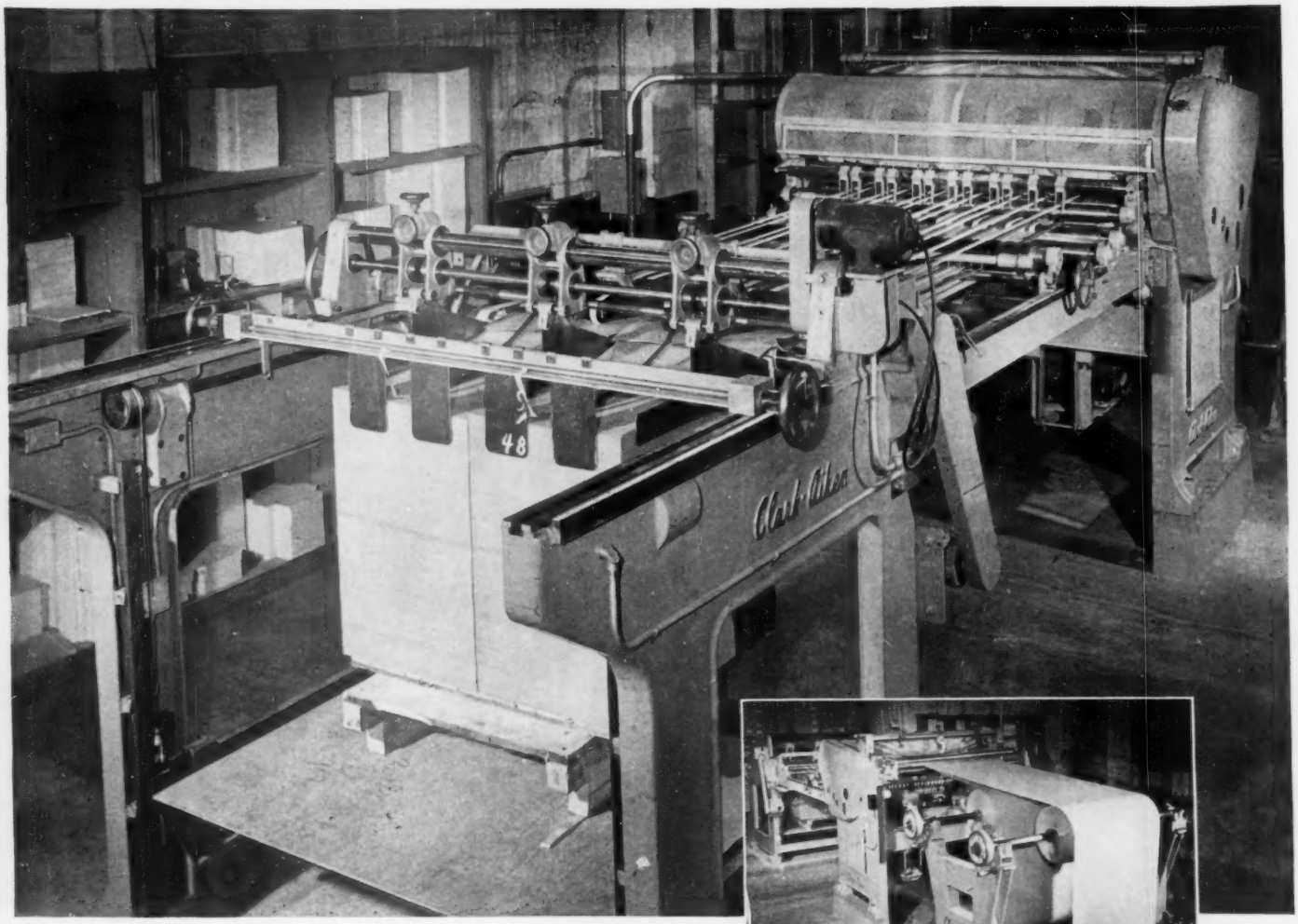
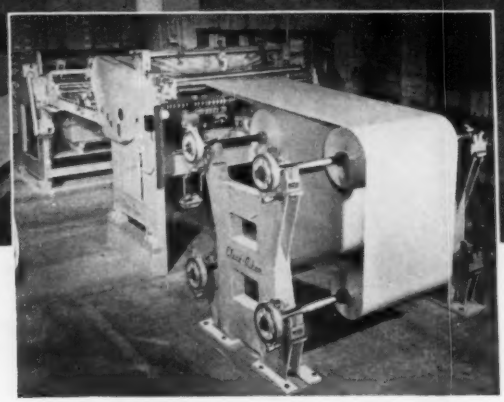




After nine months experience sheeting its own stock, Dean C. Mathews, Executive Vice President of Quality Park Envelope Company, St. Paul, Minnesota, reports:

". . . in addition to substantial cost savings, it simplifies procurement and storage problems. We used to buy paper in many sheet sizes; we now buy a few roll widths and are able to order, receive, warehouse and move our paper more easily and efficiently."

"Before . . . we sometimes encountered difficult problems procuring special sheet sizes for special large orders, making it necessary to quote long delivery dates. Now, in most cases, we can take care of these orders from inventory. Trim losses may sometimes be greater than with special size sheets but such losses are more than offset by the saving in price differential and other advantages."

"For stock envelopes, we normally sheet to standard sizes but substantial runs of special sizes are sheeted especially for the job, necessitating frequent change-overs. To make up for this down time, we wanted the highest speed sheeter available. This we found to be the Clark-Aiken machine."

Quality Park sheets various grades of stock ranging from 20 to 52 pound substance at speeds of 500 to 800 feet per minute, drawing from one to four rolls at a time. An additional two-roll backstand is contemplated to permit sheeting of commercial envelope stock from six rolls at a time and the company plans to sheet heavier weights up to 150 pound tag in the near future.

If you produce envelopes . . . or any other product requiring paper, board, film or fabric in sheet form . . . make important cost savings and place yourself in a better competitive position by sheeting your own stock on a Clark-Aiken Cutter-Layboy Unit. Let us know the grades, sizes and approximate quantities you use and our engineers will study your requirements and offer you some interesting figures.

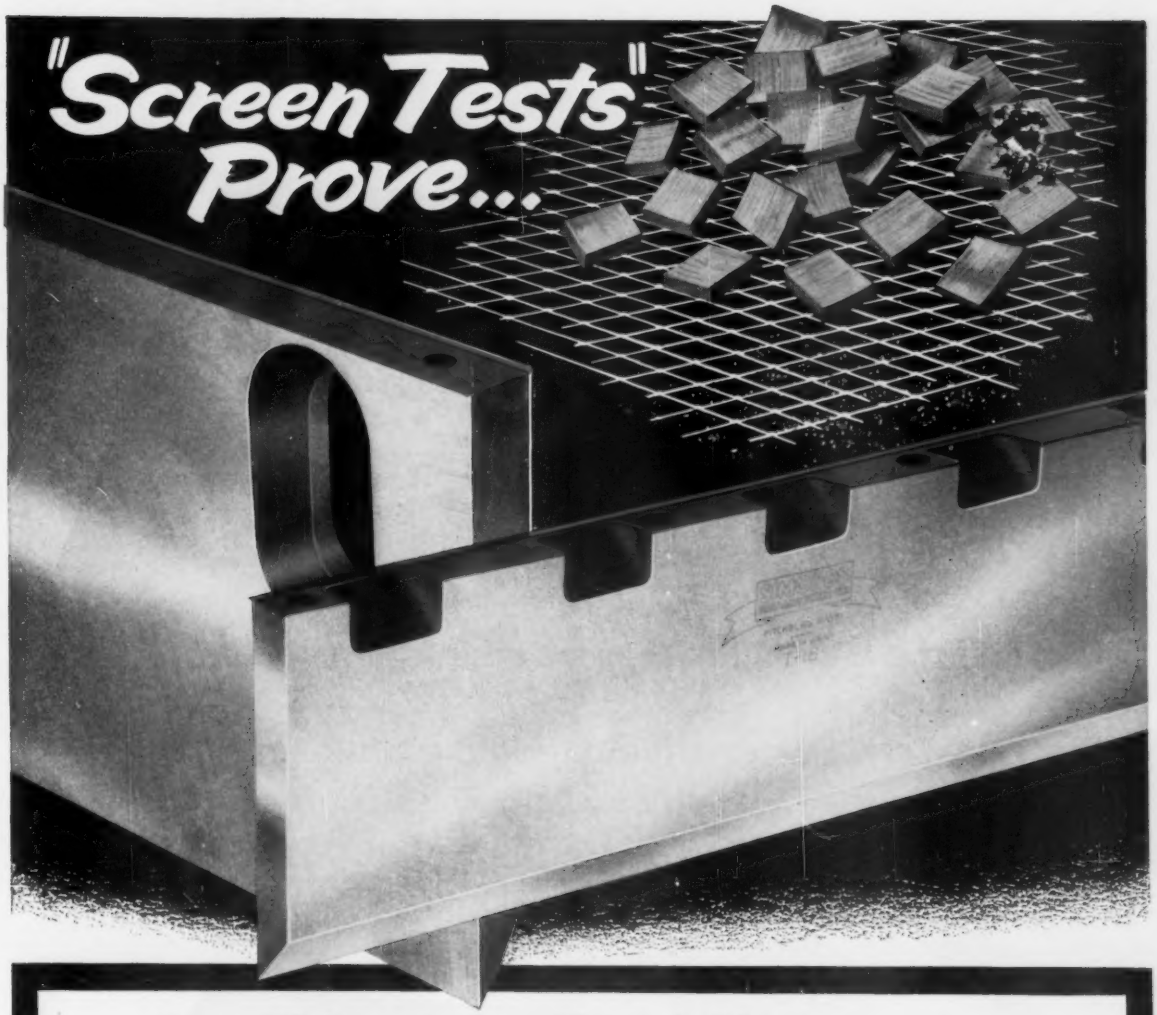
West Coast Office 114 East Union Street, Pasadena, Calif.

Quality Park Envelope Company simplifies stock procurement storage, handling . . . . . speeds deliveries on "specials" . . . . . CUTS COSTS BY SHEETING OWN STOCK WITH A CLARK-AIKEN CUTTER-LAYBOY UNIT

THE Clark-Aiken COMPANY

957 SPRINGFIELD ROAD

LEE, MASSACHUSETTS



For Chips in Good Shape — use SIMONDS T-18 CHIPPER KNIVES

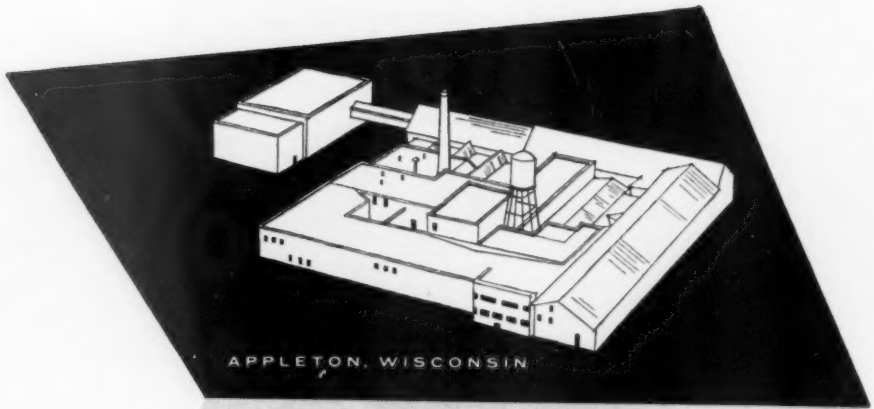
More usable chips with less dust through the screens means a lower percentage of waste, greater chip yield and more efficient woodroom operation.

You get this with Simonds T-18 Steel Knives because they are extra tough, take high speeds and heavy cuts, have extra resistance to dulling which causes bruised chips and excess dust.

Put Simonds T-18 Knives on the job and *your* screen tests will show more and better chips, less dust, LOWER COST CUTTING.

SIMONDS
SAW AND STEEL CO.
FITCHBURG, MASS.

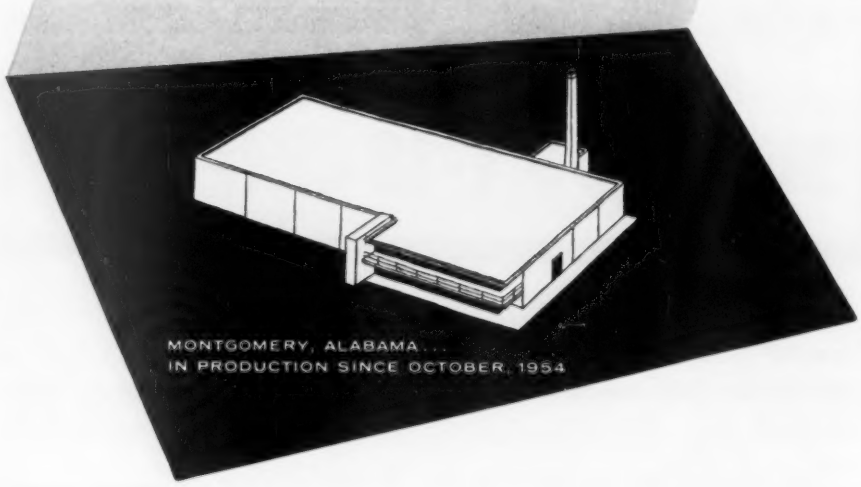
Factory Branches in Boston, Chicago, San Francisco and Portland, Oregon
Canadian Factory in Montreal, Que.
Simonds Divisions: Simonds Steel Mill, Lockport, N. Y.
Heller Tool Co., Newcomerstown, Ohio
Simonds Abrasive Co., Phila., Pa., and Arvida, Que., Canada



APPLETON, WISCONSIN

Confidence....in the paper industry

Foresight.....to anticipate changing conditions and requirements of the paper industry with new manufacturing facilities



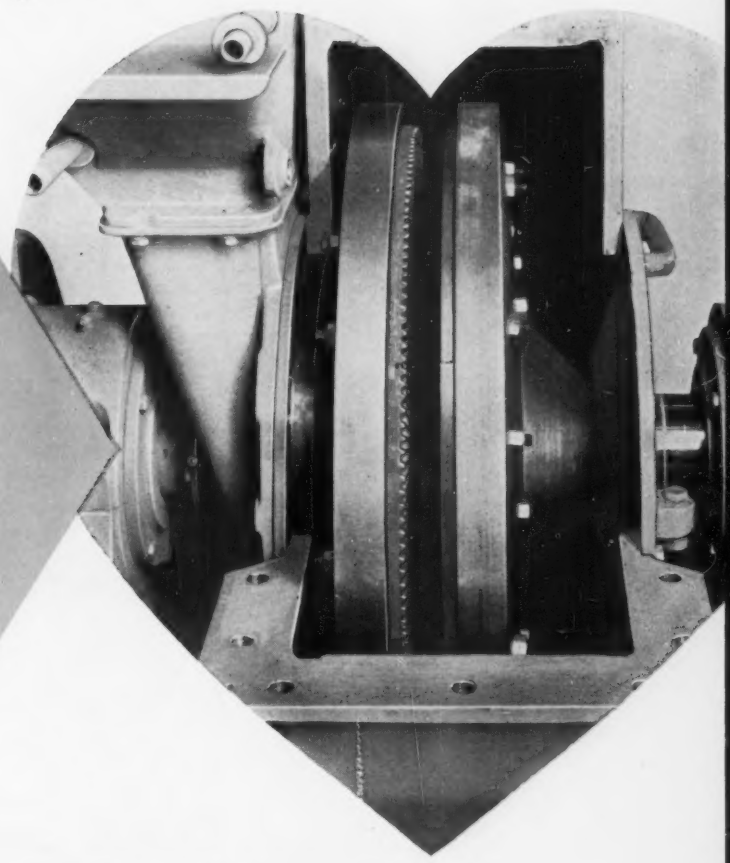
MONTGOMERY, ALABAMA...
IN PRODUCTION SINCE OCTOBER, 1954

Appleton Wires are Good Wires

Appleton Wire Works, Inc.
GENERAL OFFICES, APPLETON, WISCONSIN

How is it Bauer Double-Disc Refiners can do so many jobs so well?

HERE'S THE ANSWER



Two Revolving Discs

In a Bauer Double-Disc Refiner, each disc is separately powered by a built-in motor. These discs revolve in opposite directions, giving the plates high surface speed with minimum machine speed. This explains why the refiner (1) Fiberizes best; (2) Produces more uniform fiber; (3) Brushes out shives best; (4) Makes far less chop; (5) Disperses stock best.

For these reasons, Bauer Double-Disc Refiners are preferred on . . .

Semi-chemical pulp • Hi-yield sulphite pulp • Groundwood screenings • Mechanical ground-wood from chips • Dry-formed board furnish • Asbestos processing • Starch refining

All of these statements are readily provable from actual operating experience.

In many cases, single-revolving-disc refiners are indicated for the desired results. We manufacture them, too, in both pressure and free discharge types.

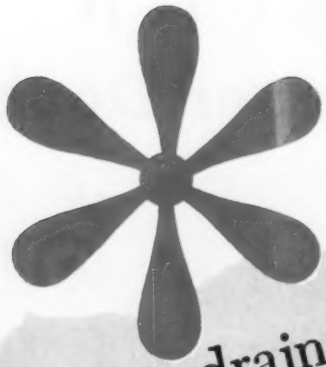
You are invited to write, wire, or phone us for literature and data on Bauer Refiners. Phone number is FAirfax 3-5501.

Bauer

The Bauer Bros. Co.

DISC REFINER HEADQUARTERS

1706 Sheridan Ave. • Springfield, Ohio



The Ross-Midwest Fulton drainage system easily attains its guaranteed 98% efficiency, say Thilmany operators. It is automatically controlled with Foxboro instruments and valves.

On hundreds of machines . . . large . . . small . . . new . . . old . . . Midwest-Fulton systems are performing with the same high efficiency.

Ross Midwest Fulton Corporation

Dayton, Ohio

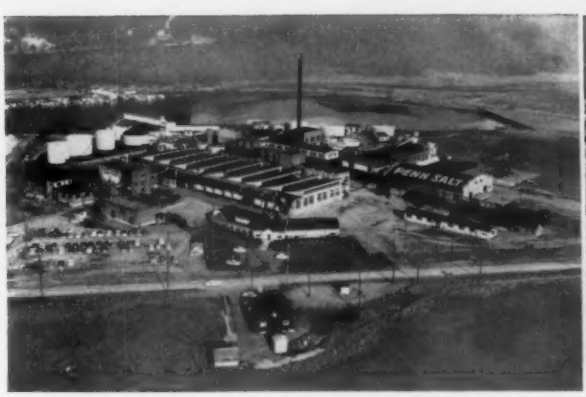
Subsidiary of J. O. Ross Engineering Corp., New York

James Brinkley, Seattle 4, Washington; Clark-Vicario, No. Tarrytown, N. Y.

Canadian Representation: Ross Engineering of Canada Limited
Montreal • Fredericton • Toronto • Port Arthur • Vancouver

Excerpt from article in Pulp & Paper, September issue on installation of new Thilmany mill.

Pennsalt Western Plants Provide Economy and Fast Service to Western Pulp and Paper Industries

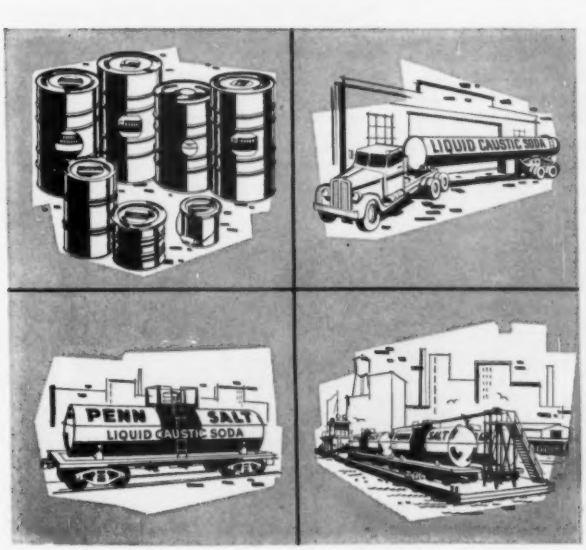


Pennsalt Plant at Tacoma, Washington

Pennsalt Plant at Portland, Oregon

Chlorine • Caustic Soda
Sodium Chlorate
Anhydrous Ammonia

Many distinct services and economies are available to Northwest users of PENNSALT chemicals. PENNSALT'S Northwest plants provide fast and dependable service . . . transportation costs are less and inventories are smaller. These advantages mean fewer problems and save money. Then, too, PENNSALT quality controlled chemicals insure uniform, dependable products, and its Technical Service Department is always available for assistance on uses or application of chemicals required for pulp refining.



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Portland, CApitol 8-7655
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Pennsalt Chemicals

PENNSYLVANIA SALT MANUFACTURING COMPANY OF WASHINGTON
Tacoma, Washington

7 BIG REASONS WHY

Bingham CIRCULATING PUMPS

1. **"Double Volute"** permits use of special over-hung impellers for handling pumpage containing large volumes of *entrained* air.

2. **Extra case strength** resulting from tension member (T) in the **"Double Volute"** casing.

3. **No dilution.** Hydraulic Radial Balance resulting from "Double Volute" design permits shaft to rotate on true center reducing stuffingbox leakage to a minimum.

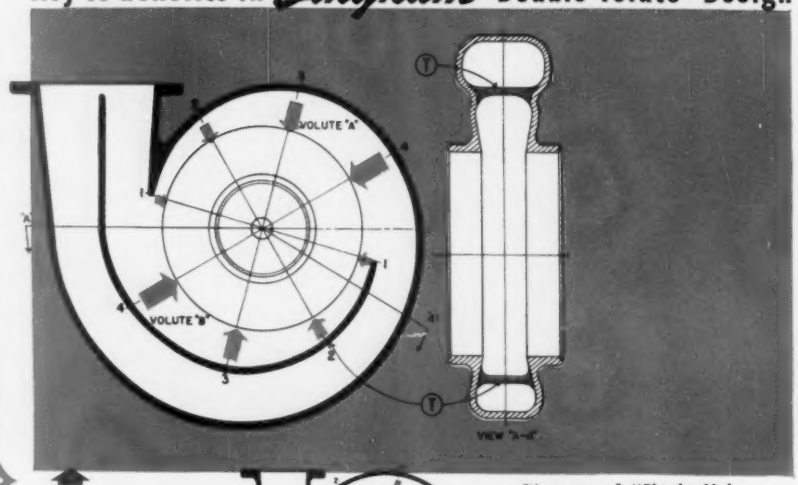
4. **Mechanical Seals.** Hydraulic Radial Balance permits mechanical seals to establish and maintain a uniform track between the contacting faces, thereby insuring long life and trouble-free service.

5. **"Double Volute"** construction eliminates "side push" of rotating element, reducing maintenance of rotating and stationary parts to a minimum.

6. **Unit type bearing** and rotating assembly is easily removable for inspection or repair without disturbing piping or driver.

7. **Spring supported "Floating Base"** assures alignment of pump and driver and protects pump from pipe strains due to extreme temperature changes in Digester Circulating Systems.

Key to benefits in *Bingham* "Double Volute" Design



No "Side Push". Diagram of a "Double Volute" single discharge case of single-stage pump (above) showing the equal pressures on the opposite sides of impeller, insuring low maintenance.

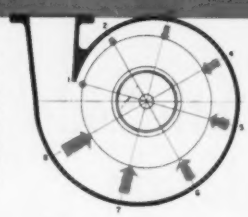


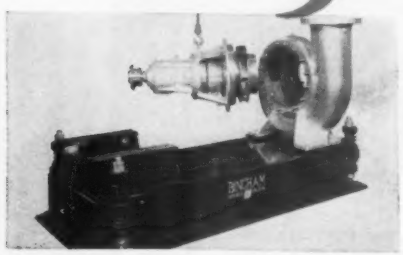
Diagram of "Single Volute" pump case (left) showing unequal pressure at opposite points around the periphery of the impeller. These unequal pressures cause "SIDE-PUSH" on the rotating elements, causing wear of rotating parts and, frequently, high maintenance.

In leading pulp mills throughout the world today, Bingham "Double Volute" Digester Circulating Pumps are selected as standard equipment because of their consistent record over the years for continuous operation with minimum maintenance.

The BINGHAM Circulating Pump illustrated below has established an enviable record throughout the industry, for circulating cooking liquors (sulphite or sulphate). The "Double Volute" design of this pump produces hydraulic radial balance which insures the shaft rotating on true center thus reducing stuffingbox leakage with corresponding dilution of the cooking liquor to a minimum.

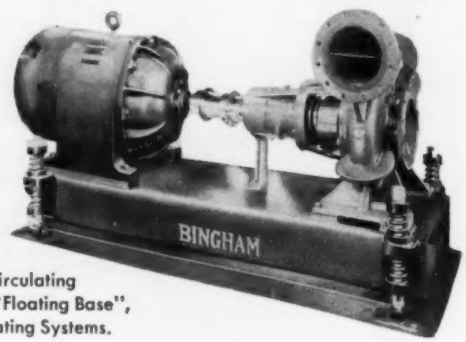
All BINGHAM Digester Circulating Pumps are mounted on a spring supported "Floating Base" which assures permanent alignment of pump and driver, and protection of pump from pipe strains common to Digester Circulating Systems, due to rapid and extreme temperature changes.

Bingham "Double Volute" Pumps will best serve your pulp and paper mill operations, as they are now serving leading pulp and paper mills everywhere. Write to your nearest Bingham office for "Double Volute" Bulletin, or send data on your pumping problem.



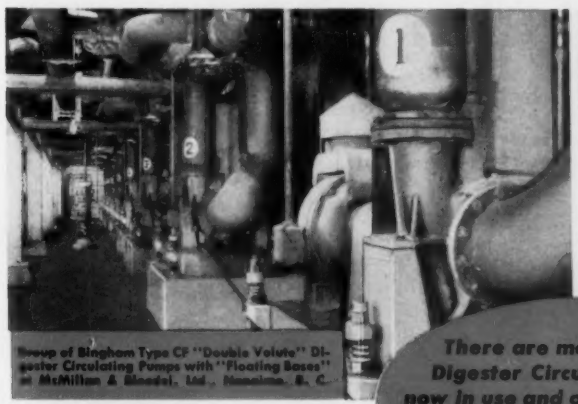
Bingham Type CF Circulating Pumps feature unit type bearing and rotating assembly which is easily removable for inspection or repair.

EASY ACCESSIBILITY

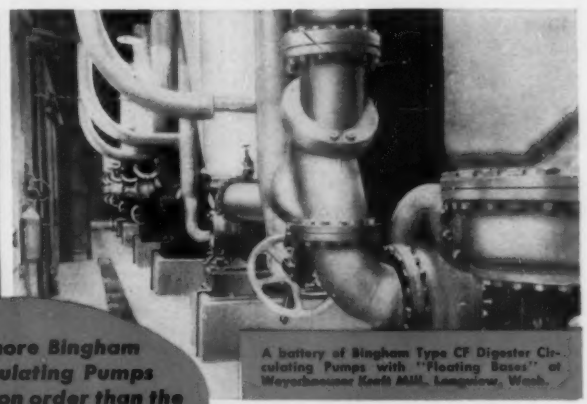


Bingham Type CF "Double Volute" Circulating Pump mounted on "Floating Base", for Digester Circulating Systems.

"DOUBLE VOLUTE" DIGESTER ARE USED THROUGHOUT THE WORLD

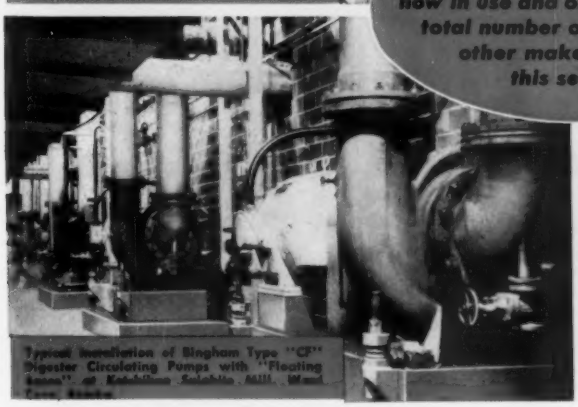


Group of Bingham Type CF "Double Volute" Digester Circulating Pumps with "Floating Bases" at MacMillan & Bloedel, Ltd., Nanaimo, B. C.

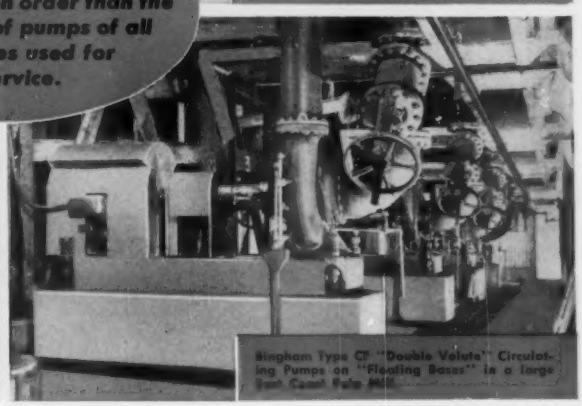


A battery of Bingham Type CF Digester Circulating Pumps with "Floating Bases" at Weyerhaeuser Kraft Mill, Longview, Wash.

There are more Bingham Digester Circulating Pumps now in use and on order than the total number of pumps of all other makes used for this service.



Typical installation of Bingham Type "CF" Digester Circulating Pumps with "Floating Bases" at Kodiak-Columbia Cellulose Mill, Ward Cove, Alaska



Bingham Type CF "Double Volute" Circulating Pumps on "Floating Bases" in a large West Coast Pulp Mill

New Major Mills recently placed in operation, or currently under construction, equipped with Bingham "Double Volute" Digester Circulating Pumps mounted on Floating Bases:

Alaska Pine & Cellulose, Ltd.
Port Alice, B. C.

B. C. Forest Products, Ltd.
Crofton, B. C.

Buckeye Cellulose Company
Foley, Florida

Columbia Cellulose Corp.
Prince Rupert, B. C.

Container Corporation
Brewton, Alabama

Companhia Portuguesa de Cellulose
Lisbon, Portugal

Cia Industrial de Atenquique
Atenquique, Mexico

Gulf State Paper Company
Demopolis, Alabama

International Paper Company
Camden, Arkansas

Kajaani Oy., Kajaani, Finland

J. S. Nicholaiewsky
Sao Paulo, Brazil

Northwestern Pulp and Paper Co.
Hinton, Alberta

Rayonier, Incorporated
Jesup, Georgia

Scott Paper Company
Everett, Washington

Tasman Pulp & Paper
Auckland, New Zealand

Westminster Paper Company
Westminster, B. C.

Crown Zellerbach Paper Co.
Duncan Bay, B. C.

East Texas Pulp & Paper Co.
Evadale, Texas

Ketchikan Pulp & Paper Co.
Ward Cove, Alaska

MacMillan & Bloedel, Ltd.
Nanaimo, B. C.

Weyerhaeuser Timber Co.
Everett, Longview & Cosmopolis, Washington

Powell River Paper Company
Powell River, B. C.

Bingham SINCE 1921

DOUBLE VOLUTE PUMPS RADIAL BALANCE

BINGHAM PUMP COMPANY
***General Offices:* 2800 N.W. Front Avenue, Portland 10, Oregon**
***Factories:* Portland, Ore. • Vancouver, B. C., Canada**

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PITTSBURGH, PA.
SAN FRANCISCO, CALIF.
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Complete Service

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Engineering and Manufacturing Company, Watertown, N. Y.

STEBBINS ENGINEERING CORP. — 1504 TOWER BLDG., SEATTLE, WASH.
CANADIAN STEBBINS ENGR. & MFG. CO., LTD. — TOWN OF MOUNT ROYAL, MONTREAL 9, CANADA

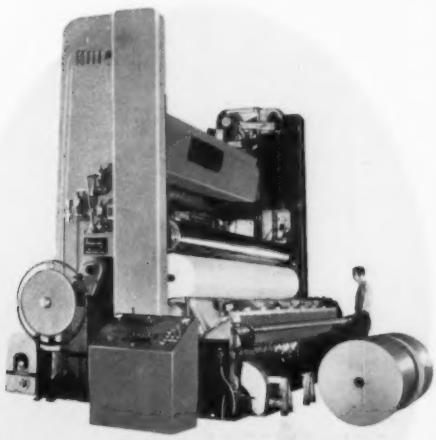
A NEW, IMPROVED

shear-cut

SLITTING SYSTEM

DEVELOPED BY CAMERON'S

team of specialists



CAMERON IMPERIAL

high-speed winder with score-cut or shear-cut slitters.

. . . for higher operating speeds; faster, easier set-up changes; longer cutter-blade life.

. . . each rear cutter blade is individually mounted on the drive shaft, and runs on a double row of bearings.

. . . the rack and pinion mounting permits fast, accurate lateral positioning of the rear cutter blades.

. . . the front cutter blades are easy to set, both for strip width and depth of overlap.

. . . front and rear cutter units can now be added or removed easily and quickly, for fast set-up changes.

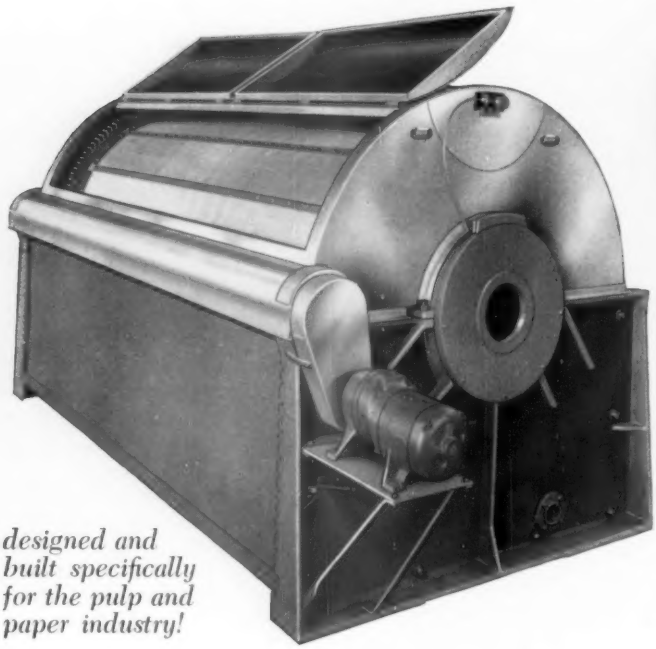
. . . an automatic safety device prevents cutter-blade nicks when engaging or disengaging front and rear units.

Let Cameron specialists help you to choose the right slitting method for your winder . . . score-cut *or* shear-cut. Write or telephone now for technical information.

CAMERON MACHINE COMPANY Camachine 61 Poplar Street • Brooklyn 1, N.Y.

NORTH

ROTARY - SELF CLEANING...



designed and built specifically for the pulp and paper industry!

. . . For over 40 YEARS—the world's FINEST in Water Filters!

Progressive pulp and paper mills in the United States and Canada have found throughout the years that NORTH Screens give perfect performance day in and day out . . . for only NORTH Filter units do this job so efficiently with a minimum of attention and maintenance.

If water filtration is one of your problems, remember the name NORTH—and rely on the 40 years' experience and "know how" for the correct solution to your water screening applications.

5 SIZES • RUGGED CONSTRUCTION • NEGLIGIBLE MAINTENANCE

CAPACITY OF FILTER UNITS*

Screen size	40 mesh		60 mesh		80 mesh		100 mesh	
	g.p.m.	g.p. day	g.p.m.	g.p. day	g.p.m.	g.p. day	g.p.m.	g.p. day
4′	1000	1,440,000	800	1,152,000	700	1,008,000	500	720,300
6′	4500	6,480,000	3500	5,040,000	2777	4,000,000	2000	3,280,000
8′	5900	8,496,000	4900	7,056,000	4166	6,000,000	3200	4,608,000
10′	8000	11,520,000	7000	10,080,000	6250	9,000,000	5300	7,632,000

* Screens can be provided wth up to 325 mesh p.s.i. for installations requiring individual application.

PROMINENT USERS INCLUDE

Pejepscot Paper Co.
Brunswick, Maine

Great Northern Paper Co.
Millinocket, Maine

Waterfalls Tissue Corp.
Mechanic Falls, Maine

Columbia Celanese Co.
Watson Island, British Columbia

Marinette Paper Co.
Fort Edward, New York

Kimberly Clark Corp.
Niagara Falls, New York

International Paper Co.
N. Tonowanda, New York

Gardner Board & Carton
Middletown, Ohio

Coos Bay Pulp Corp.
Empire, Oregon

Weyerhaeuser Timber Co.
Springfield, Oregon

National Container Corp.
Big Island, Virginia

Detroit Sulphite Pulp & Paper Co.
Detroit, Michigan

S. D. Warren Co.
Muskegon, Michigan

Minnesota-Ontario Paper Co.
International Falls, Minnesota

Brown Co.
Berlin, New Hampshire

Consolidated Water Power & Paper Co.
Wisconsin Rapids, Wisconsin

Northern Paper Mills
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Port Arthur, Ontario

Dryden Paper Co.
Dryden, Ontario

WRITE

Write today on your letterhead for complete and detailed information and brochure on quality proved and tested NORTH Screens.

GREEN BAY FOUNDRY & MACHINE WORKS

MANUFACTURERS OF NORTH WATER FILTERS AND NORTH SAVE-ALLS

GREEN BAY • WISCONSIN

Your food products customers will welcome this new way to protect flavor and aroma—

IONOL®, C.P.

...impregnated paper and boxboard combats surface rancidification

Rancidification is the mortal enemy of flavor and aroma. When fats and oils migrate from food products to box or wrapper surfaces, they rancidify quickly. Results: deterioration of quality; reduced shelf life; consumer dissatisfaction.

Now there is an *effective new way* to solve this troublesome problem . . . one that will be welcomed by manufacturers of baked goods, cereals, meals, shortening, packaged meats, butter, and similar products. Ionol, C.P. antioxidant — incorporated into the boxboard or wrapping materials in which products are packed—provides long-lasting protection against rancidity by effectively preventing oxygen attack on fats.

In actual tests, baked goods were stored at 85° F in Ionol, C.P.-impregnated boxboard cartons, which were found to be free of rancidity at the end of ninety days. Without Ionol, C.P.-antioxidant protection, packages of baked goods stored under similar conditions often develop rancidity within a week.

Be among the first to offer your customers this new, effective packaged foods protection. Write for: "Ionol, C.P. for Impregnating Paper and Paperboard."

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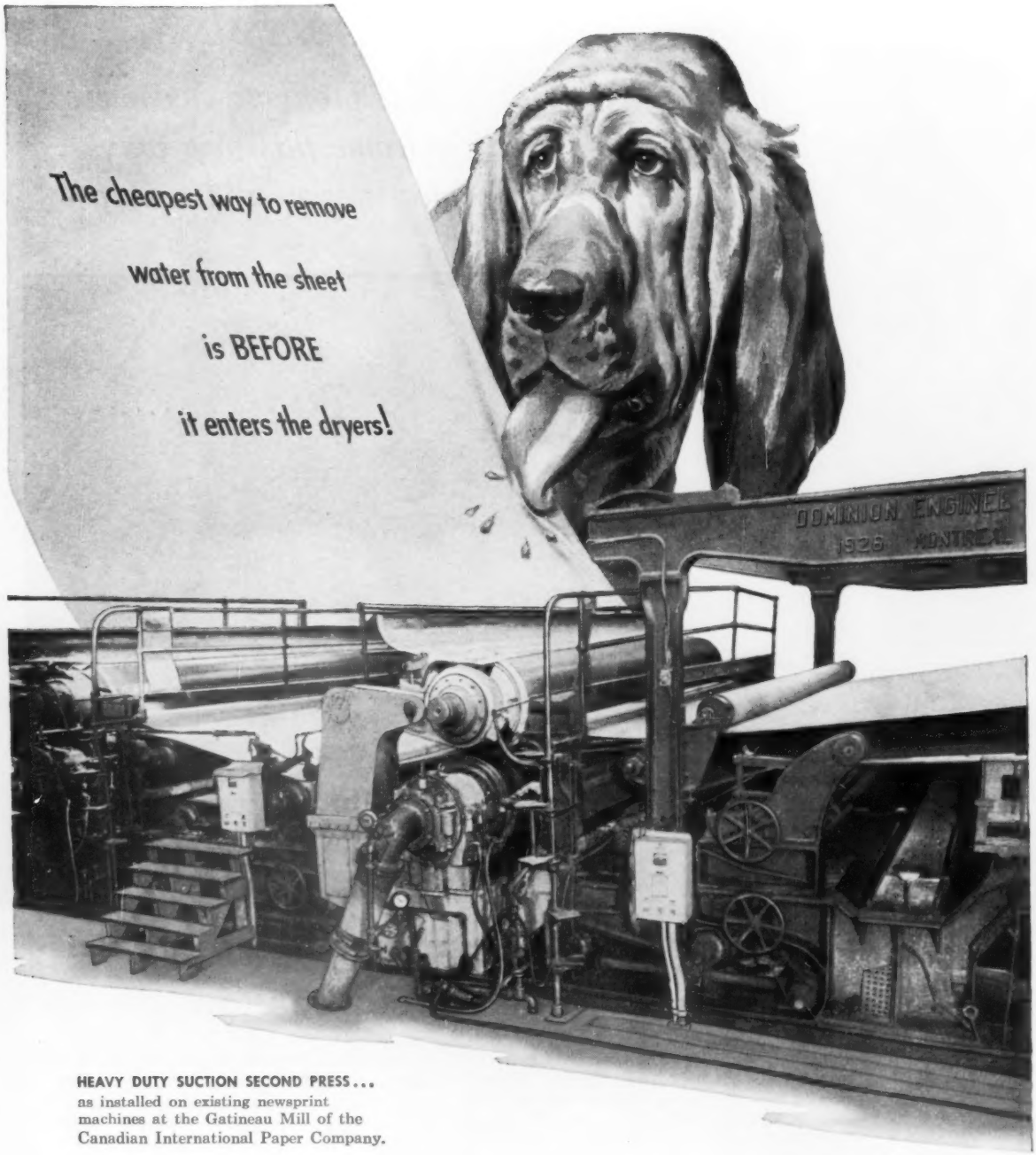
CHEMICAL SALES DIVISION, 380 Madison Avenue, New York 17, New York

Atlanta • Boston • Chicago • Cleveland • Detroit • Houston • Los Angeles • Newark • New York • San Francisco • St. Louis

IN CANADA: Chemical Division, Shell Oil Company of Canada, Limited • Montreal • Toronto • Vancouver

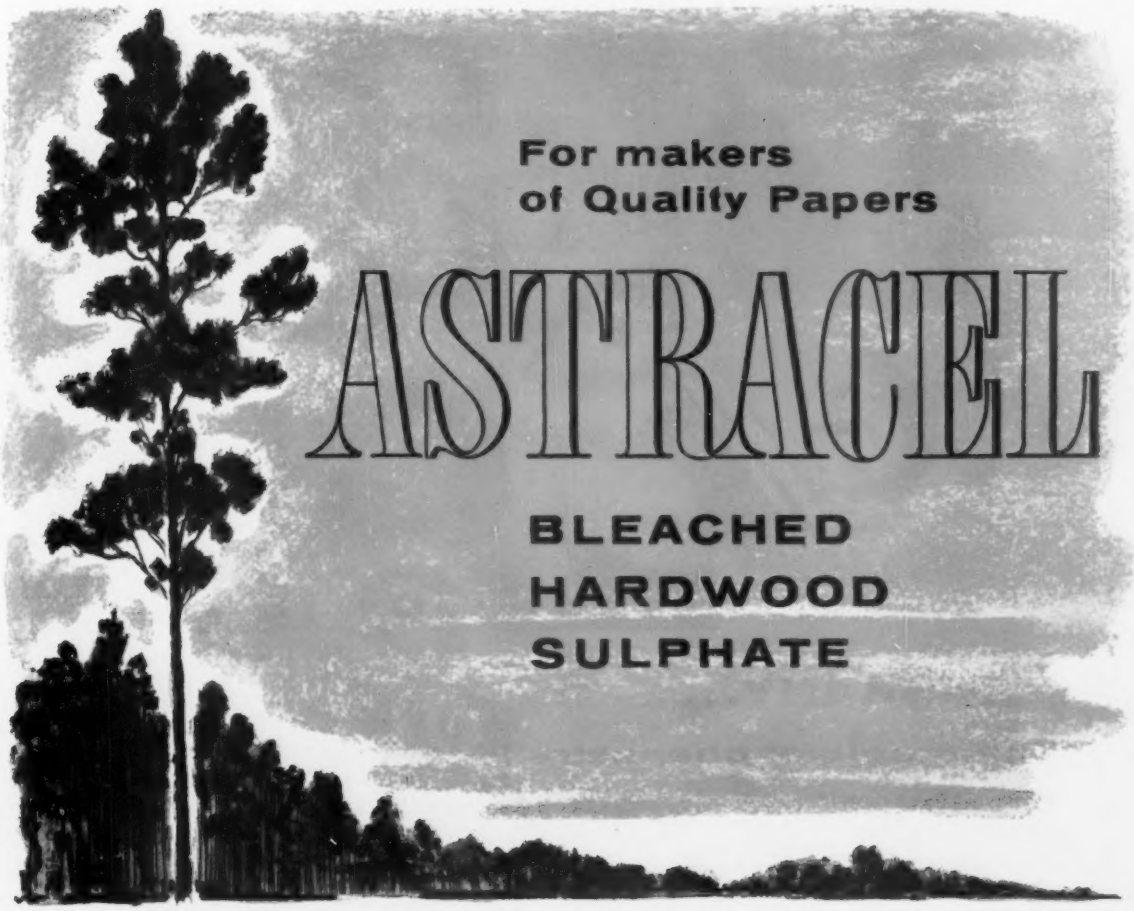
SHELL



HEAVY DUTY SUCTION SECOND PRESS...
as installed on existing newsprint machines at the Gatineau Mill of the Canadian International Paper Company.

The use of corrosion resistant steel shells for rubber covered suction press rolls has made possible higher nip pressures and the use of larger diameter granite top press rolls and oil hydraulic loading. These improvements also provide a more compact arrangement and easier control. After the installation of this unit, a comparison of the new moisture conditions with those of the original second press showed an increase in water removed of more than half. This results in a sheet entering the dryers about 2% more dry—that is, with 9% less water to be evaporated. A considerable advance in operating efficiency with lower production costs has thus been obtained.

DOMINION ENGINEERING
COMPANY LIMITED
PAPER DIVISION
MONTREAL TORONTO WINNIPEG VANCOUVER



Created by Papermakers for Papermakers

This is a perfected bleached hardwood sulphate . . . made from carefully selected species of southern hardwood trees which yield the longest and finest hardwood fibre available. Astracel has the excellent forming qualities found in northern hardwoods . . . *plus great strength.*
It is produced at Riegel Carolina's pulp mill at Riegelwood, N. C., with every refinement and control known to modern pulp manufacture.

Riegel Carolina Pulps

ALBACEL • ASTRACEL

RIEGEL PAPER CORPORATION • 260 MADISON AVENUE • NEW YORK 16, N. Y.

At ORISKANY...

The magic of chemistry is taking the "bugs" out of your felt problems!

Bacterial damage to felt fibres can reduce felt life on a machine as much as 50% or more! Down time and production losses can seriously cripple your delivery schedules when you encounter this problem in your mill. At Oriskany, when our laboratory analysis of a felt sample indicates a bacterial condition, we apply our exclusive T-10 anti-bacterial treatment to correct this destructive action. Oriskany Felts treated with this chemical formula are protected permanently against bacterial damage without affecting finish, drainage or normal operation.

Do you have a special felt problem? Consult with the experienced Oriskany Sales Engineer when he calls at your mill. He is particularly qualified to analyze your felt requirements, and he will refer your problem to our team of laboratory specialists, designers and production engineers. They can recommend a design improvement or one of our many chemical treatments to correct your specific problem. Our constant aim at Oriskany is to help you make better paper products . . . at less cost.

First choice-because They last Oriskany WATERBURY FELTS

H. WATERBURY and SONS COMPANY • ORISKANY, NEW YORK

The machine that produced a commercially acceptable sheet a few decades ago may fail to meet the new demands of today's competitive market. Or if quality is pushed higher, production may be too slow for profitable operation.

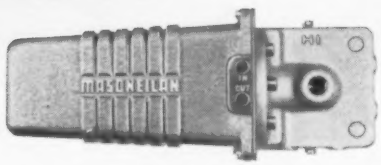
A new Puseyjones Machine can give you the high quality paper you want, in greater tonnage, with better profits. And your Puseyjones Machine is your assurance of meeting tomorrow's still higher production demands. That's because the finding of new pathways to increased speeds and larger profits is a 90-year-old tradition at Puseyjones.

When you need a new machine . . . or the modernization of an old one . . . you need the help of Puseyjones engineers. That help is yours for the asking. Call or write us today.

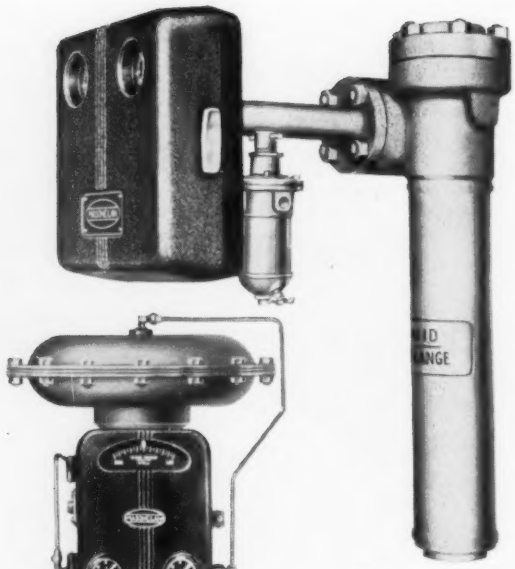
THE SIGN OF TRADE MARK SUPERIOR QUALITY

THE PUSEY AND JONES CORPORATION
Established 1848 : : Builders of Paper-Making Machinery
Fabricators and Welders of all classes of Steel and Alloy Products
Wilmington 99, Delaware, U.S.A.

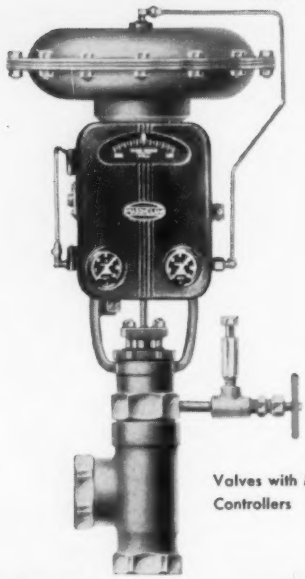
Indicating, Recording and Non-indicating Controllers



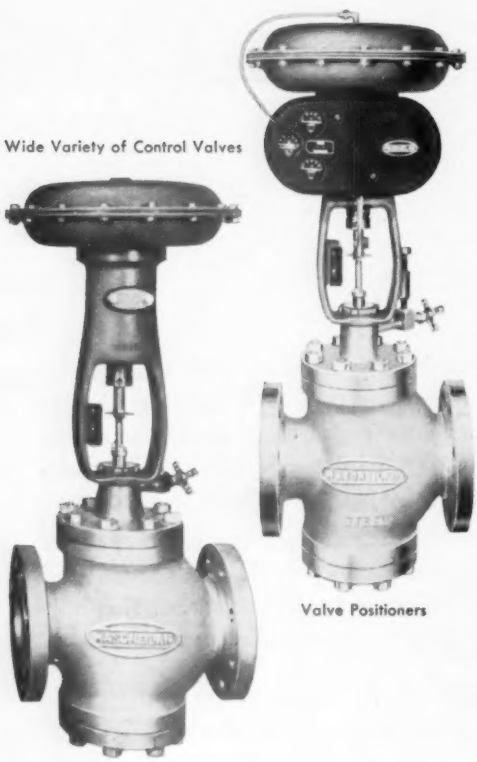
Differential Pressure Transmitters



Liquid Level Controllers



Valves with Mounted Pressure Controllers



Wide Variety of Control Valves

Valve Positioners

Mason-Neilan

Serves the Process Industries with Accurate and Reliable Control Equipment

Since 1882 Mason-Neilan has supplied industry with a wide variety of standard and specialized automatic control equipment for process and associated services. Each is a development of practical engineering based on experience gained in close contact with industrial control problems. Each is specifically designed to do an exceptional job. With Masoneilan products you get engineered equipment that assures superior performance, long life with minimum maintenance.

When writing for information please specify item or items which interest you.

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a new **Dilts** product

TD-4 SLITTER-REWINDER...

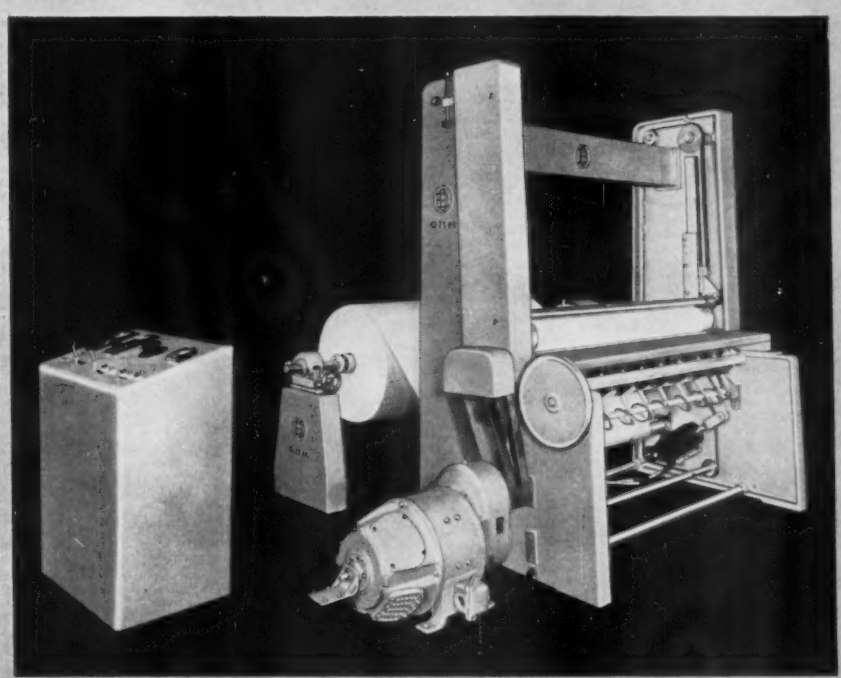
for converting operations on paper, film, foil, textiles and board.

This modern machine based on proved principles of slitting and rewinding incorporates major design improvements.

These improved designs feature a riding roll overdrive insuring tight starts, controlled pneumatic engagement of slitters, ball bearing mounted and positive axial locking of core winding shaft and extensive use of standard and readily available commercial items.

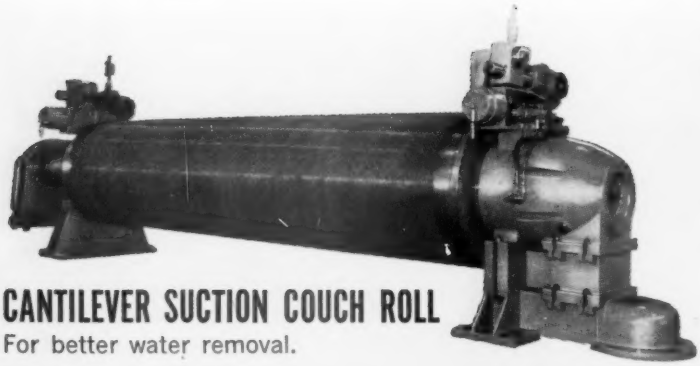
The TD-4 has 4" diameter drums, 30" rewind capacity and can be furnished with shear or score type slitting. It is designed in standard widths of 42", 52" and 62" and operates at speeds to 1000 fpm. Other Dilts models are available for rolls up to 72" in diameter and widths to 130"

Write for Specification Sheet 105 on the TD-4.

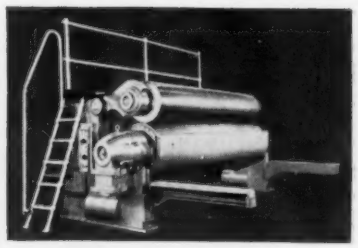


The BLACK-CLAWSON *Company*

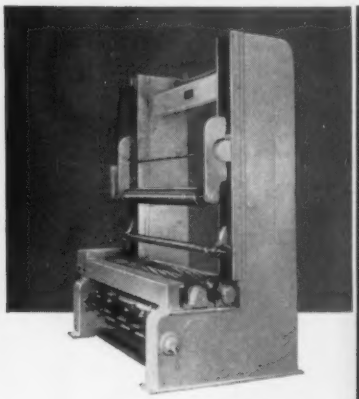
DILTS DIVISION • FULTON, N. Y.



CANTILEVER SUCTION COUCH ROLL
For better water removal.

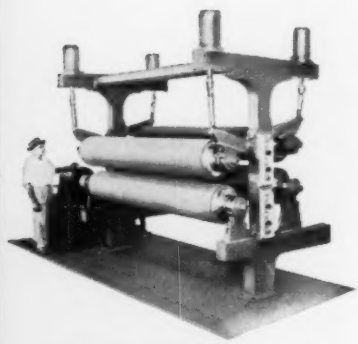


SUCTION PRESS
For a higher drying rate.

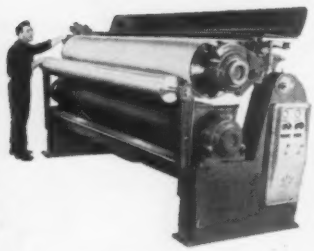


WINDER AND SLITTER
For uniformly wound straight rolls.

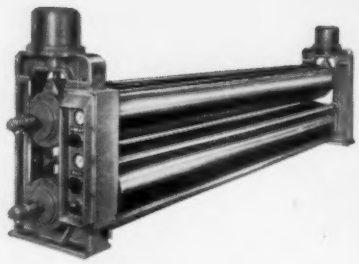
These Manchester Machines can make money for you



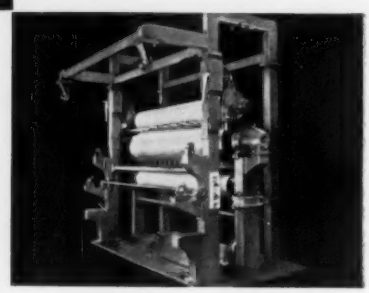
PRIMARY PRESS
For quality control and top-quality board.



SIZE PRESS
For a continuously uniform sheet.



SMOOTHING PRESS
For improved finish and uniform caliper of board.



SUCTION DRUM PRESS
For uniform high quality board.

THE MANCHESTER MACHINE CO.
MIDDLETOWN, OHIO

SPECIALISTS IN DESIGNING AND BUILDING PAPER MILL MACHINERY

Keep your eye on Buckeye

and its modern wood pulp plant at Foley, Florida

Big things are happening at Buckeye! This company, the first to manufacture pulp from cotton linters, is now one of the leaders in wood pulp.

The new Buckeye mill at Foley, Florida has the most modern equipment for production of highest grade wood pulp. An outstanding system of quality controls insures delivery of your order "as specified." Buckeye's manufacturing operations are backed by a fully equipped research laboratory at Memphis with a large staff of skilled technicians.

Leading paper companies have found it pays to do business with Buckeye. Why not discuss your wood pulp requirements with us? Address inquiries to:

BUCKEYE CELLULOSE CORPORATION
Memphis 8, Tenn.
Subsidiary of the Procter & Gamble Company

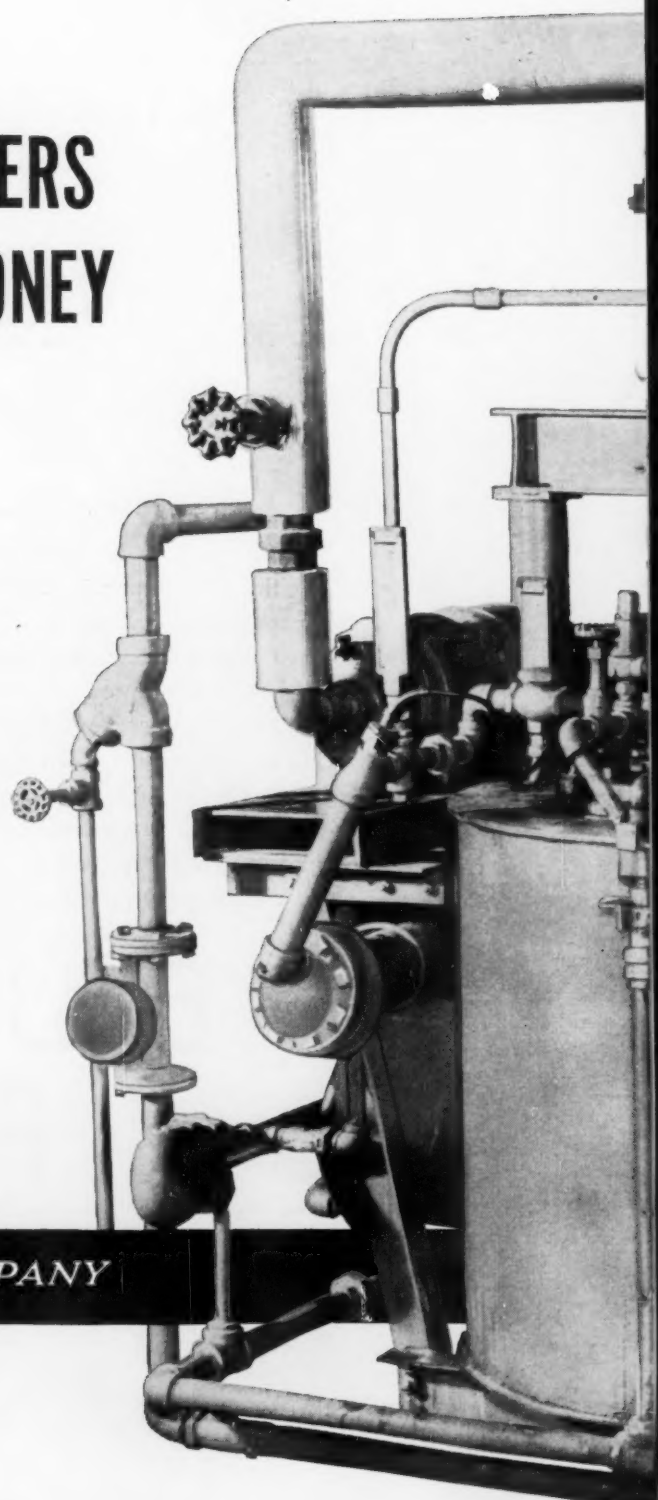
BUCKEYE PULP

Bleached and Semi-Bleached Kraft from Southern Pine

*There must be reasons for leadership**

FOR EXAMPLE: HERCULES AUTOMATIC EMULSIFIERS HELP MILLS SAVE MONEY

Hercules has assisted in the industry's progress by designing mechanical improvements for mill operations. The development and extensive use of the Hercules Automatic Emulsifier is typical of these innovations. More than 125 of these units are now in use helping mills lower labor costs, reduce space requirements and obtain greater uniformity of emulsion concentration and quality of size emulsion. If you are interested in learning more about this equipment, one of our technical representatives will be glad to discuss it with you. Just write:



Paper Makers Chemical Department

PP56-6

HERCULES POWDER COMPANY

965 King Street,
Wilmington 99, Delaware

***Hercules is the acknowledged leader in rosin size and other chemicals for papermaking.*

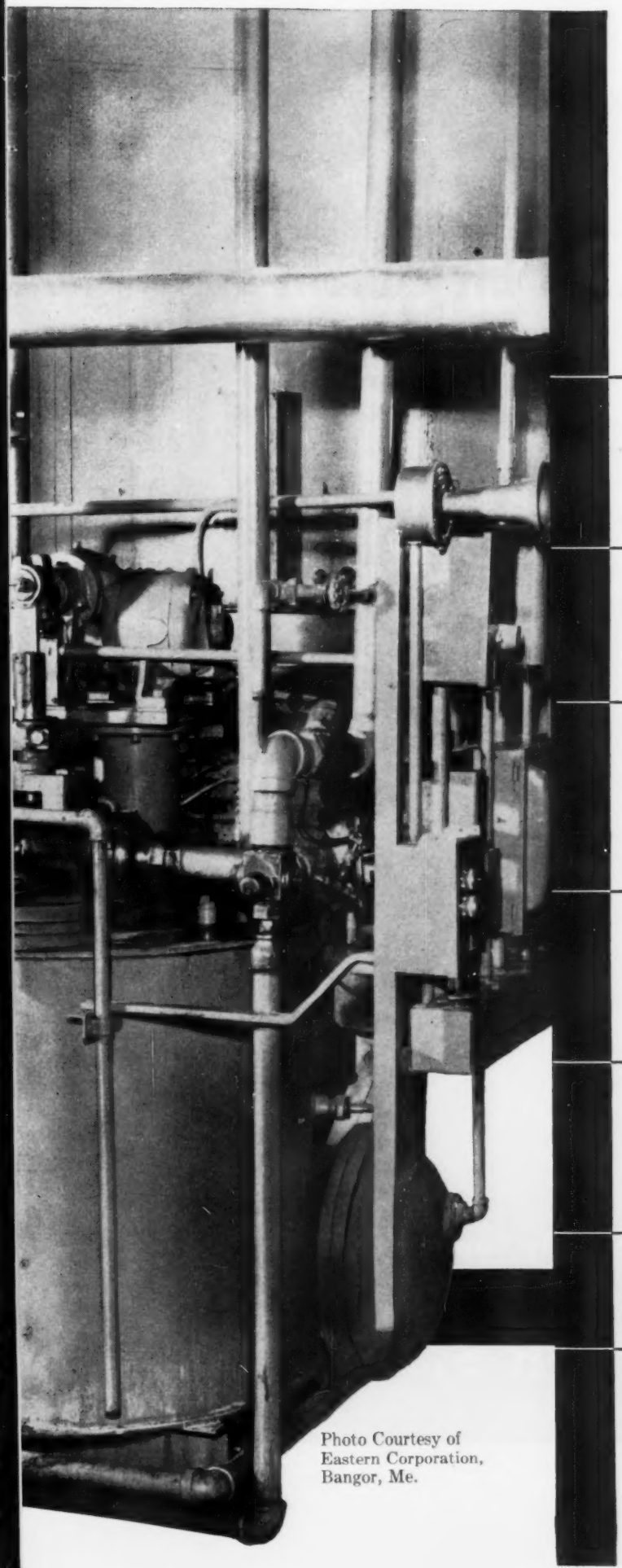


Photo Courtesy of
Eastern Corporation,
Bangor, Me.

SOME REASONS FOR HERCULES LEADERSHIP

UNEQUALED TECHNICAL SERVICE
A staff of more than 50 technically trained men are thoroughly grounded in the cumulative experience of 40 years' mill and laboratory service to the paper industry. Such company experience results in an understanding of the requirements of the paper industry and is reflected in the variety and dependable quality of the products designed to meet them. One of these men is always as near as your telephone.

FORWARD-LOOKING CHEMICALS
From Hercules research come new products designed to anticipate your needs for improved chemical materials. Whether it is a new grade of size based on rosin or a completely new concept, you can look to Hercules for progressive leadership.

UNMATCHED DISTRIBUTION FACILITIES
Hercules maintains by far the largest number of plants and strategically-located distribution points of any rosin size manufacturer. This is your assurance that the product you want will be delivered when and where you want it.

A SIZE FOR EVERY NEED
Hercules' large number of sizing grades means there is one available to meet practically any requirement. For unusual problems, Hercules can formulate a custom-made grade to fit your specific need. Hercules assures you the lowest possible sizing cost by recommending the right grade for your specific needs.

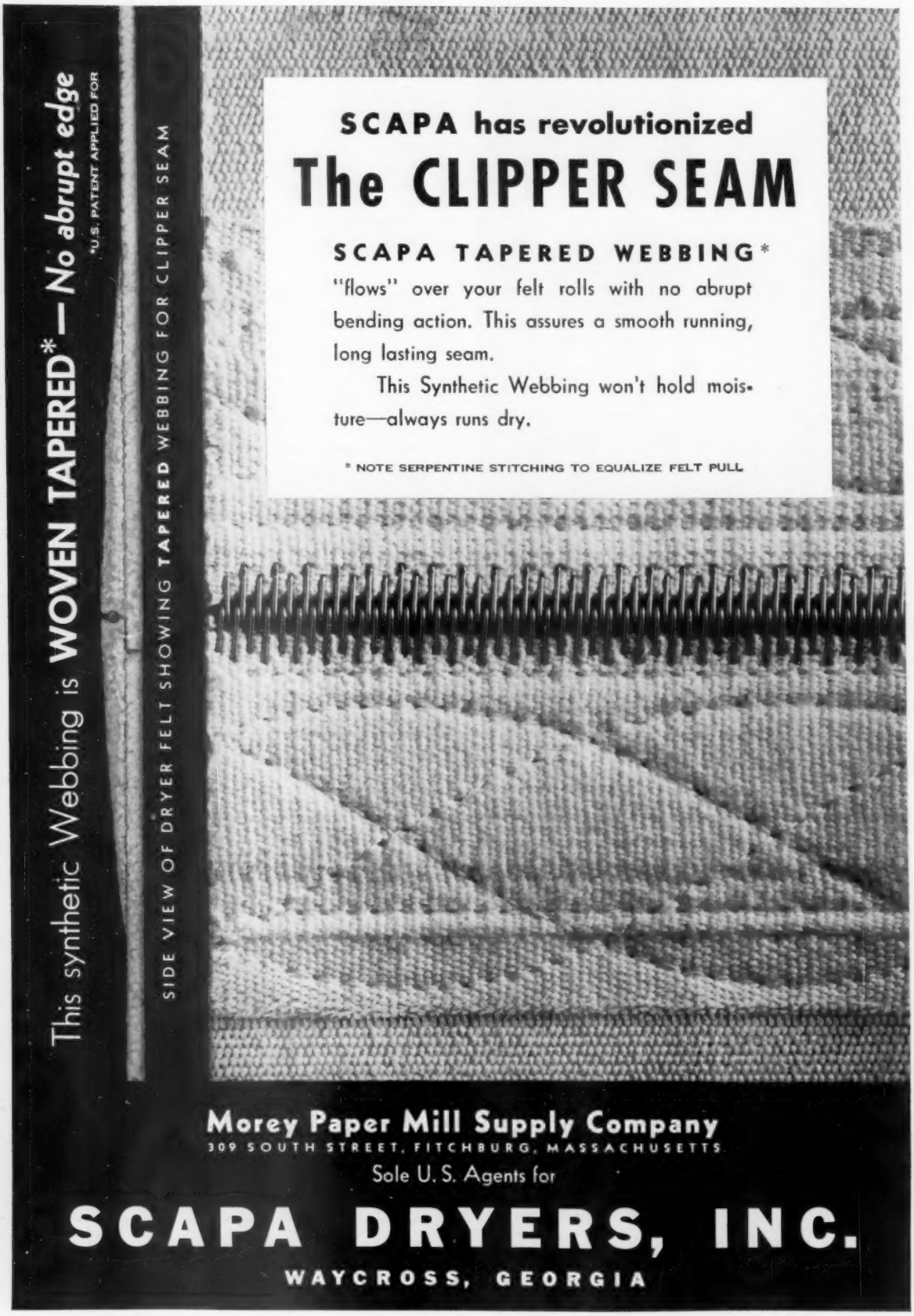
PACE-SETTING RESEARCH
The most extensive research and technical service facilities devoted exclusively to papermaking are maintained by Hercules. The Hercules laboratories are always at the disposal of customers in helping to solve sizing and other papermaking problems.

VARIETY OF PRODUCTS
Hercules is also a leading source of other high-quality papermaking chemicals. Wax emulsions, wet strength resins, defoamers—to name but a few made by Hercules—incorporate the same degree of skilled processing improvements that are found in Hercules'® rosin sizes.

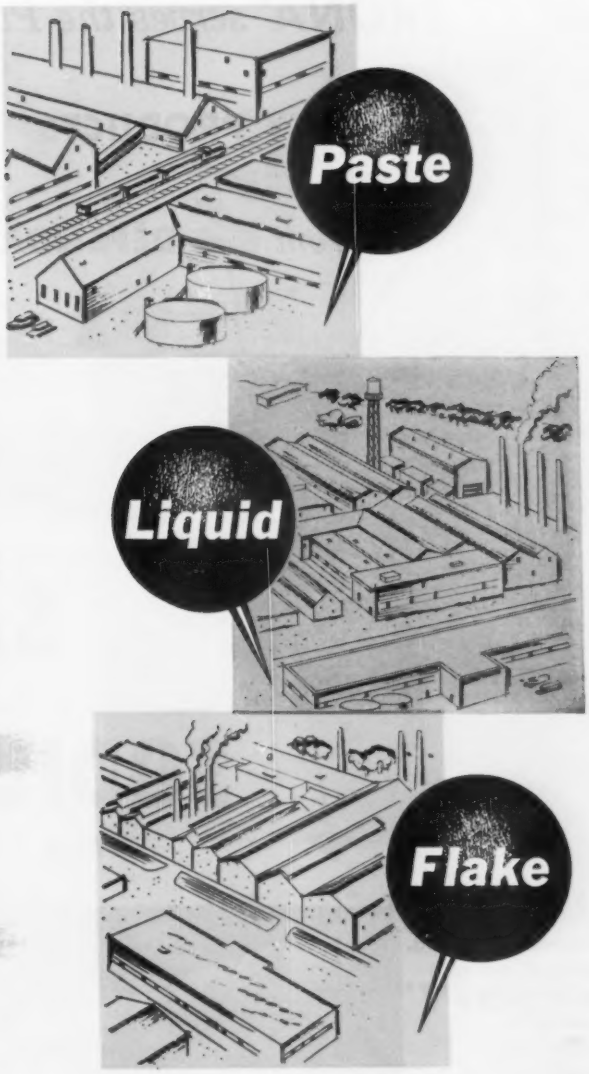
DEPENDABLE SOURCE OF SUPPLY
Hercules' many facilities for producing rosin and rosin size assure you of a thoroughly dependable source of supply.

SAVINGS IN SHIPPING
Hercules has pioneered many improvements in rosin size distribution. The freight and handling savings made possible through the introduction of dry size and higher solids paste size, both in tank truck and tank car shipments, are typical examples.

HERCULES POWDER COMPANY
INCORPORATED


This synthetic Webbing is WOVEN TAPERED*— No abrupt edge
*U.S. PATENT APPLIED FOR
SIDE VIEW OF DRYER FELT SHOWING TAPERED WEBBING FOR CLIPPER SEAM
SCAPA has revolutionized
The CLIPPER SEAM
SCAPA TAPERED WEBBING*
"flows" over your felt rolls with no abrupt bending action. This assures a smooth running, long lasting seam.
This Synthetic Webbing won't hold moisture—always runs dry.
* NOTE SERPENTINE STITCHING TO EQUALIZE FELT PULL
Morey Paper Mill Supply Company
309 SOUTH STREET, FITCHBURG, MASSACHUSETTS
Sole U. S. Agents for
SCAPA DRYERS, INC.
WAYCROSS, GEORGIA

NOPCO HAS THE DEFOAMER THAT WILL GIVE BEST RESULTS FOR EACH MILL



Nopco, the first to make a chemical defoamer for the pulp and paper industries, has an unrivalled wealth of first-hand experience, and the widest range of defoamers...paste, liquid, and flake. One thing we know for sure—there's no such thing as a defoamer that works equally well in *every* mill. Local conditions vary too much.

That's why we prefer to analyze a sample of white water from your mill. We test it with every potentially effective defoamer—including if you like, the one you are now using. When we have finished our exhaustive tests, we are able to determine scientifically and impartially, which defoamer will give your mill the even fiber distribution, fewer breaks, higher machine speeds, and improved sheet formation that you should have.

What you want is the absolute minimum of foam in your operation. If you haven't given Nopco a chance to "prescribe", you can't be sure you have that absolute minimum. Why not consult Nopco Chemical Company, today?

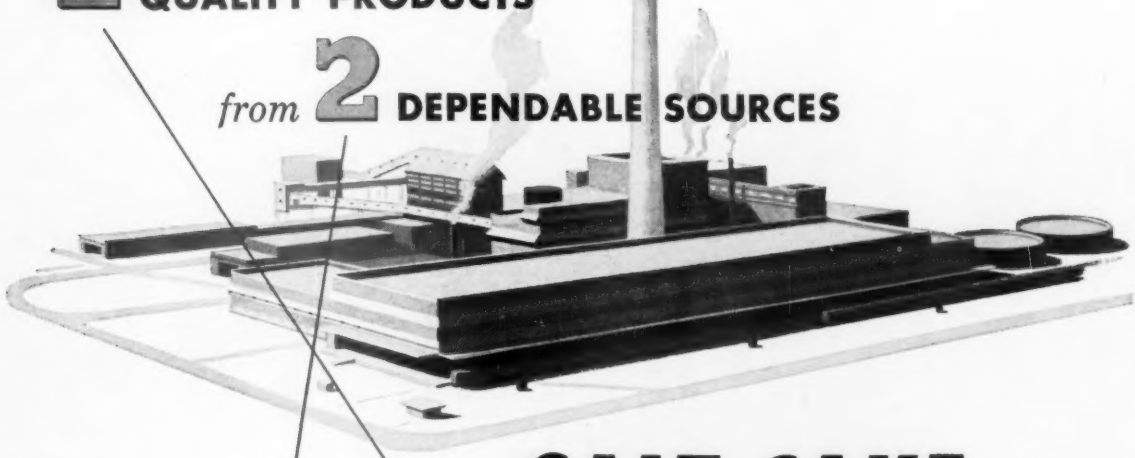
NOPCO

PLANTS: Harrison, N. J.
Cedartown, Ga. • Richmond, Calif.
London, Canada

TRONA® *serves the Pulp Industry with*

2 QUALITY PRODUCTS

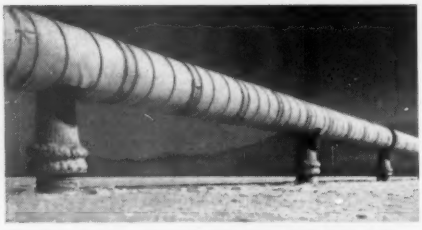
from 2 **DEPENDABLE SOURCES**



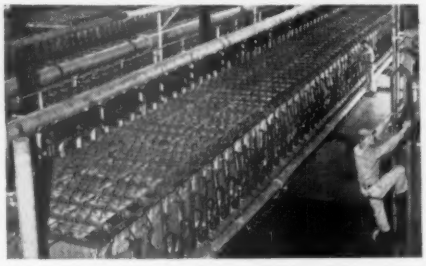
SALT CAKE
OF HIGHEST PURITY

SODIUM CHLORATE
FOR CHLORINE DIOXIDE BLEACH

SEARLES LAKE at Trona, California. Source of *natural* sodium sulphate, essential for quality kraft production



HENDERSON, NEVADA. Source of $NaClO_3$ for the SOLVAY high-stage chlorine dioxide pulp bleaching process.



Add another step forward in American Potash & Chemical Corporation's continuing diversification program! Trona has long been the leading source of *natural* sodium sulphate (Na_2SO_4) from the brines of Searles Lake, so essential in quality kraft production. Now from American Potash & Chemical Corporation (Nevada) (formerly Western Electrochemical Company) Trona serves the industry with highest purity sodium chlorate, used extensively in the SOLVAY high-stage chlorine dioxide pulp bleaching process. Two dependable sources, two quality products—a combination that can't be beat!

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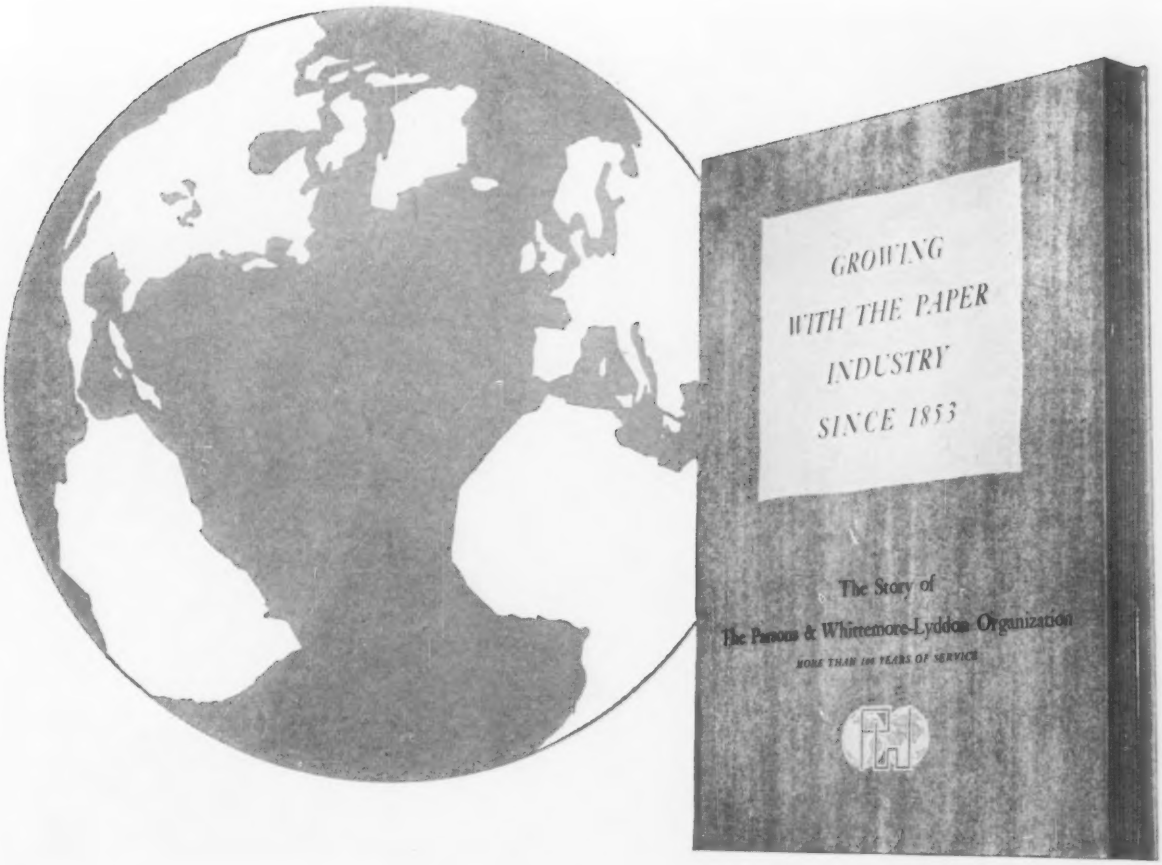
(American Potash & Chemical Corporation (Nevada)
SAN ANTONIO, TEXAS (American Lithium Chemicals, Inc.)



New book describes world-wide pulp & paper development services

Here is a book that tells how you can profit by using the comprehensive world-wide services of The Parsons & Whittemore-Lyddon Organization. With more than 100 years of experience, this international organization can facilitate your pulp and paper business development anywhere in the world. "Growing with the Paper Industry" explains these services:

Marketing wood pulp, and *developing new pulp and paper business abroad.*

Testing and research, to determine the suitability of such raw materials as cereal-straw, rice-straw, bagasse, abaca, esparto grass, eucalyptus, bamboo and fast-growing tropical hardwoods, in the making of paper.

Advice about and aid in producing pulp and paper of suitable material anywhere on earth; or redesigning of existing plants; assistance in developing a financial program.

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From building production facilities to marketing pulp and paper anywhere in the free world, this Organization can help you. This new book—and its companion volume "The Mechano-Chemical Process for Production of Pulp from Straw, Bagasse and other Vegetable Fibres"—will tell you how.

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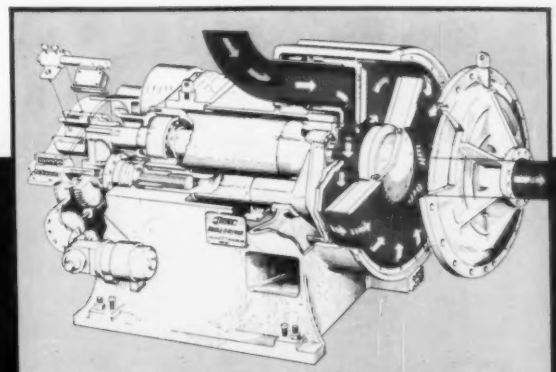
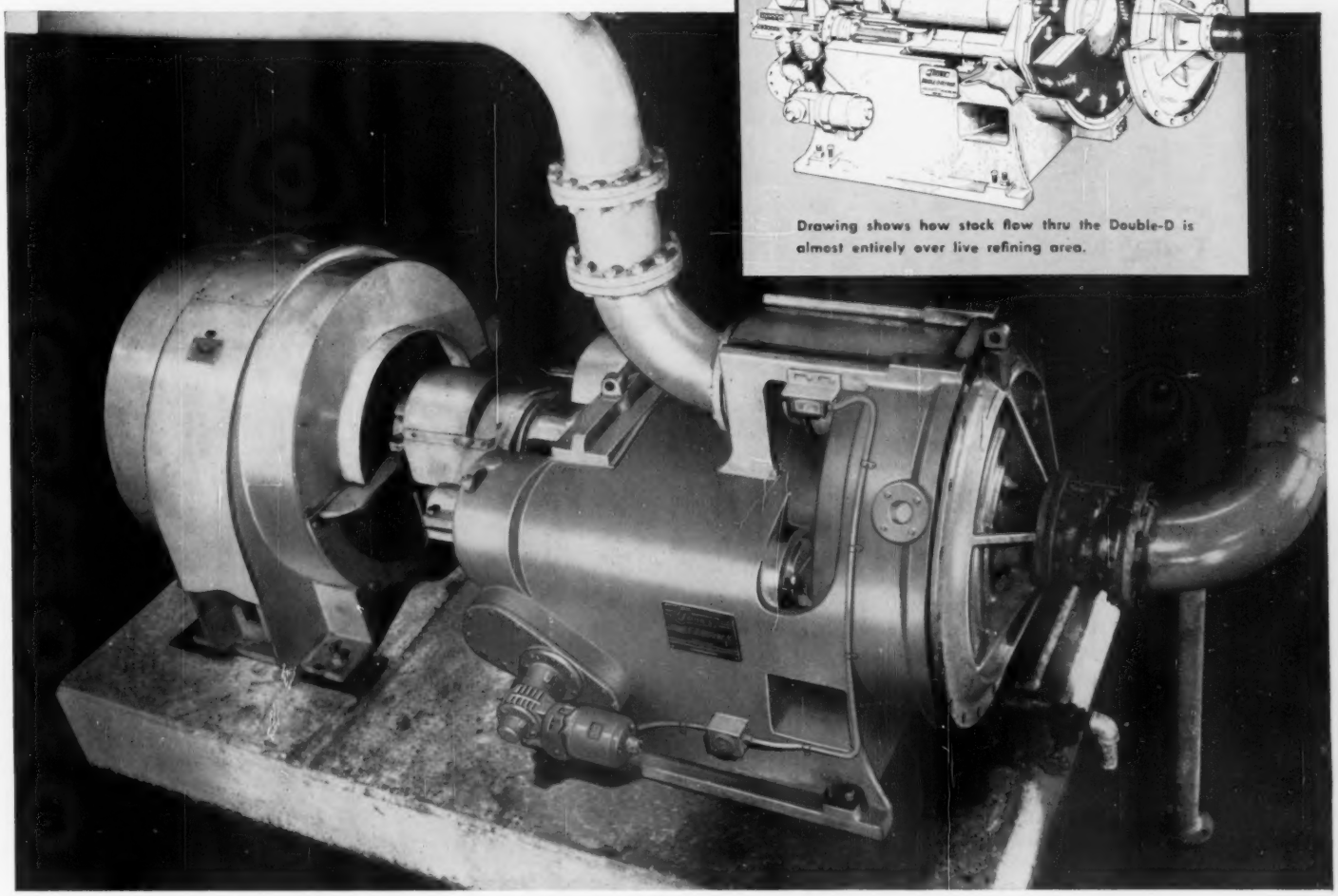
BETTER THINGS FOR BETTER LIVING . . . *THROUGH CHEMISTRY*

This installation photo illustrates the compactness, economy of floor space and simplicity of piping of the Double-D Refiner.



Drawing shows how stock flow thru the Double-D is almost entirely over live refining area.



Over 2,200 square inches of live refining area

Jones DOUBLE-D with DOUBLE EQUA-FLO EFFECT

The only unit of its kind with **two stages of refining** in the same machine, the Jones Double-D actually does twice the work of conventional refiners, because it has double the refining area — 2200 square inches in the 42″ model.

With over 50 sold to date, the Double-D in two years use has more than lived up to experimental forecasts — in performance, efficiency, ease of maintenance and savings in horsepower.

Ask your Jones representative for details or write direct for Bulletin EDJ-1083.

E. D. JONES & SONS CO.
Pittsfield, Massachusetts

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New York 20, N. Y.

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This revolutionary advance in Jordan plug design

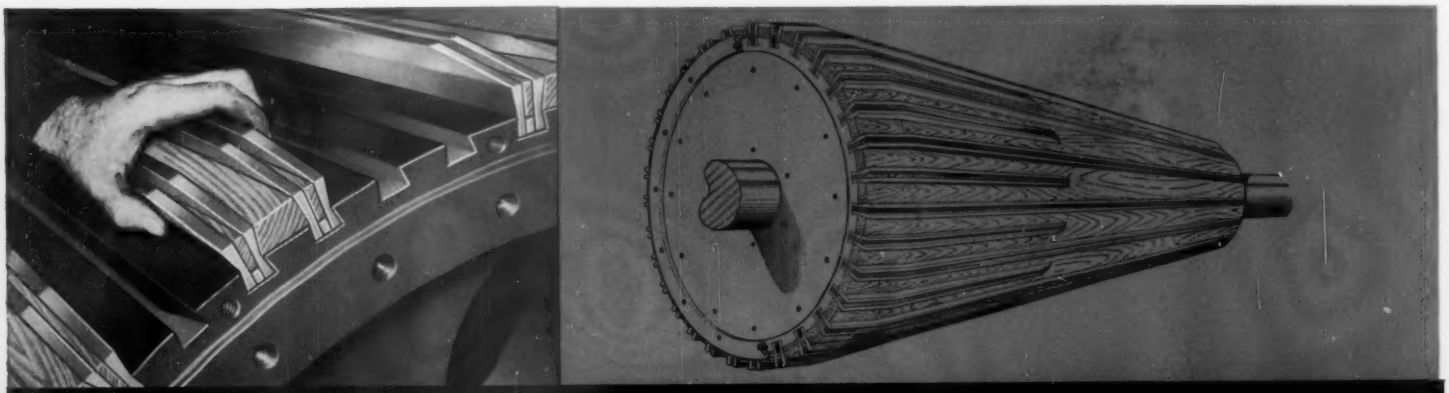
SAVES TIME AND MONEY FOR YOU

This new completely bandless Jordan plug is easier to strip, easier to fill. Inverted wedge type slots hold bars firmly in place, eliminate dangers of slot wear and corrosion. Slots and woods remain the same regardless of bar design — fillings can be readily changed without changing the plug.

Adapta-Plug is also available in Meehanite sleeve form for old plugs; removable, if desired, for easy changeover. Ask your Jones representative about this newest, strongest, most adaptable Jordan plug design today . . . or write us direct for complete details.

Photo shows how bars are grouped in pairs and wedged firmly in slots.

Jones Adapta-Plug



Jones

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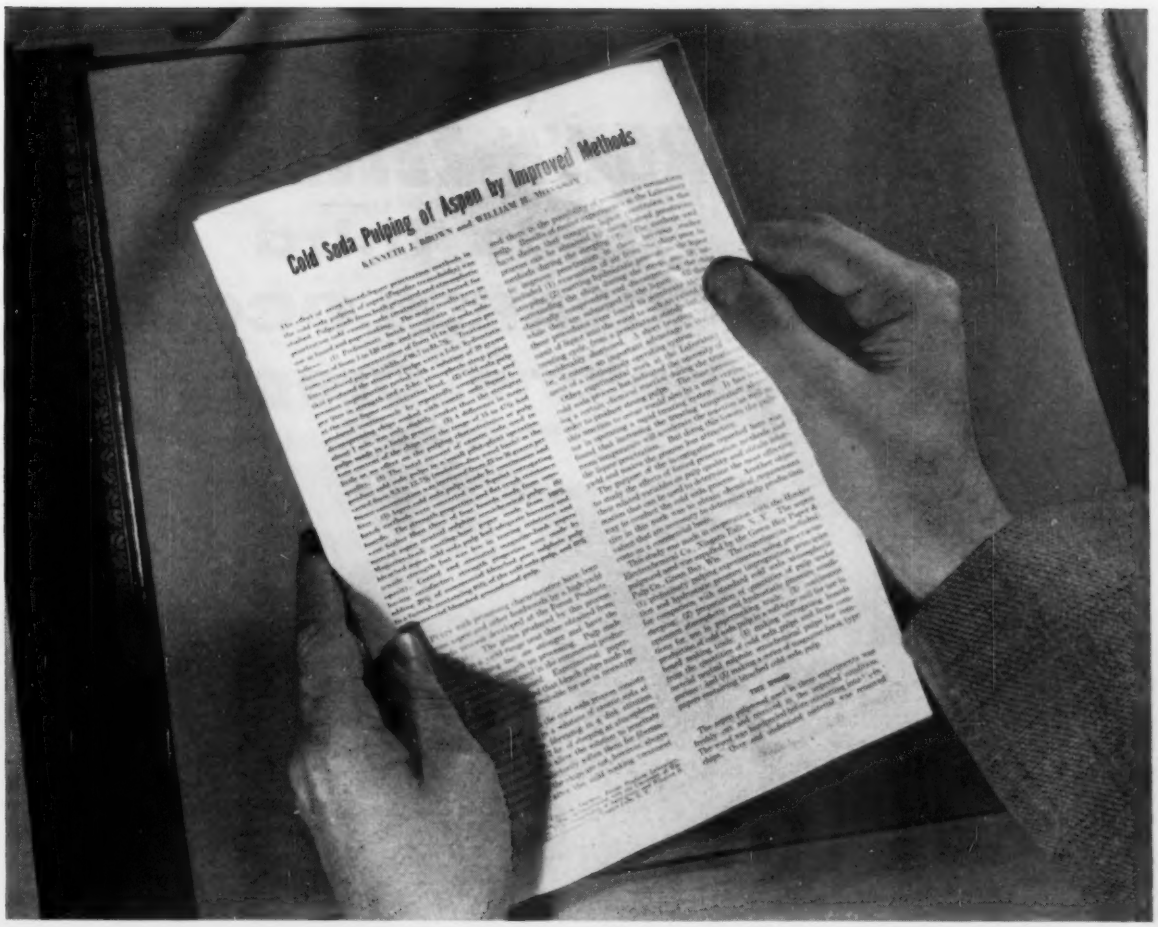
OVER 300 OF THESE FULBAR Shell Fillings now in use

A complete one-piece assembly, made to fit into the shell body of any Jordan, the Fulbar needs no keys or wedges. The ideal filling for an old Jordan that has had shell wear, Fulbar rigidity and accurate one-piece construction readily compensate for inequalities which would make precise fitting of a sectional filling a problem. Users report savings of up to 12 man-hours in installation time. Easy to grind in, too — and no sharp ends on bars to form strings or lumps. There are many new advantages. We'll gladly send you full details and the names of satisfied users.



Send for this bulletin

"Cold Soda Pulping of Aspen by Improved Methods"

New high-yield process makes uniform cold soda pulp

A new, improved process for steeping aspen pulp in cold caustic soda shows great promise for making corrugating board and news-type papers.

The Forest Products Laboratories with our cooperation put the new process to the following tests:

1. Pre-evacuated aspen chips were steeped in cold caustic soda under hydrostatic pressure. The resulting pulp was compared with standard cold caustic pulp steeped under atmospheric pressure.

Results show that in this process the liquor penetrates the aspen chips completely and produces a highly uniform pulp. Thus the process overcomes the most serious objection to previous methods of cold caustic steeping.

2. 9-point corrugating board was made from cold caustic pulp produced continuously in a roll-type mill and from pulp produced under hydrostatic pressure.

The board shows higher strength properties than four other boards made from commercial neutral sulfite semi-chemical pulp. The new board has above average folding endurance and a flat-crush value of about 32 pounds per square inch.

3. A series of magazine-type book papers was made from the cold steeped pulp.

Results indicate that the new pulp is suitable in every way for news-type papers.

You can look into the economies of this new process by writing for Bulletin 250 (a reprint of the article on cold caustic steeping which appeared in the August, 1956 issue of TAPPI magazine). It discusses the process and its results in detail.

HOOKER ELECTROCHEMICAL COMPANY

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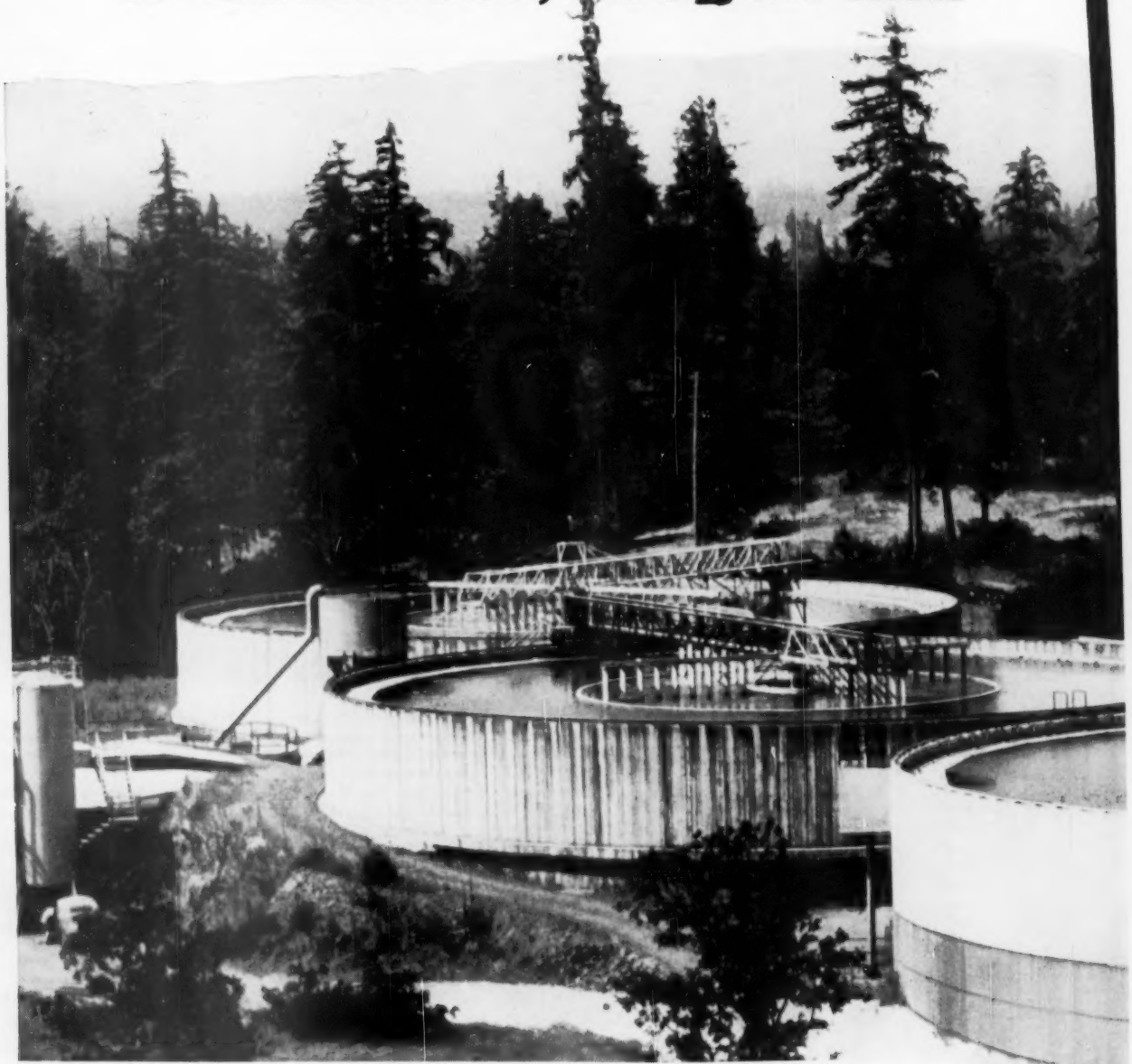
6-1857

CROWN ZELLERBACH

Adds Third

DORRCO CLARIFLOCCULATOR

to St. Helens, Oregon Mill



In 1952, two 120' dia. Dorrco Clariflocculator units were installed at Crown Zellerbach's St. Helens, Oregon mill to handle a design flow of 20 MGD. Three years later, in order to keep pace with Crown Zellerbach's expanding requirements, another 120' dia. Clariflocculator was added, increasing the total design flow to 30 MGD.

. . . to handle increased process requirements . . . and to reduce color and remove turbidity of the process water

Due to the location of the mill at the fork of the Willamette River and the Columbia River, obtaining clear, process water for production of bleach pulp has been a serious problem for the St. Helen's Division of Crown Zellerbach. This problem is further aggravated as raw water characteristics fluctuate widely because of the tidal action of the Pacific Ocean. With the installation of three 120′ dia. Type H Dorrco Clariflocculator units, 30 MGD of finished water is produced containing less than 5 ppm color and 5 ppm turbidity.

These combination units providing flocculation and clarification in a single tank at conventional rates of flow were ideally suited for the changing conditions at the St. Helens Division of Crown Zellerbach Corporation.

For more information on the complete line of Dorr-Oliver equipment for water treatment, write for Bulletin No. 9141. Dorr-Oliver Incorporated, Barry Place, Stamford, Connecticut, U.S.A.

Clariflocculator is a trademark of Dorr-Oliver Incorporated, Reg. U. S. Pat. Off.

Every day, over 8½ billion gallons of water are treated in Dorr-Oliver equipment.

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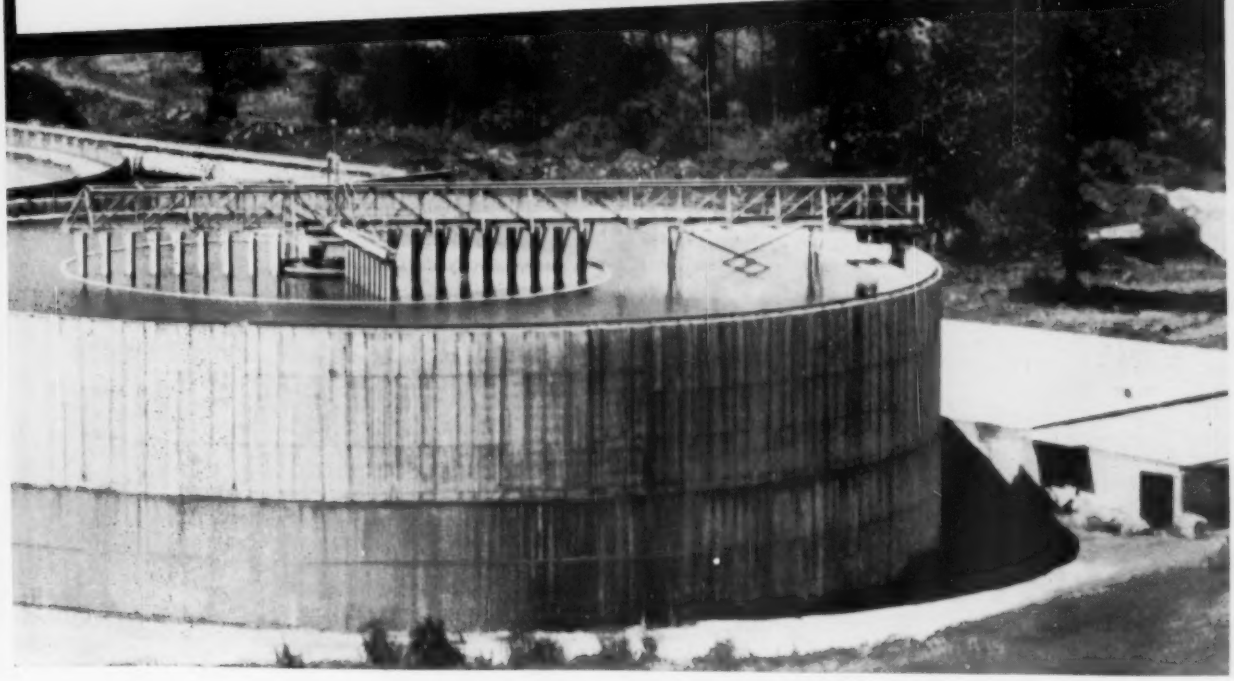

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A new Product

FOR
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PRESERVATION OF
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PULP & PAPER PRESENTS A MANAGEMENT PANEL ON POLLUTION

A new industry engineering committee on pollution made its bow on Oct. 9 at the 11th Annual TAPPI Engineering Conference in Boston, Mass.

As a service to the industry, PULP & PAPER invited ten management leaders of the industry to express their viewpoints in a management symposium on the subject. PULP & PAPER proudly presents its panel:

ALLEN ABRAMS
(Retired) Vice President i/c Research
Marathon Corp.
FOLKE BECKER
Chairman of the Board
Rhinelander Paper Co.
G. B. BONFIELD
Vice President—General Manager
American Box Board Co.
GEORGE E. DYKE
Chairman, Board of Governors,
National Council for Stream Improvement;
President and Chairman, Robt. Gair Co., Inc.
ROY K. FERGUSON
President and Chairman
St. Regis Paper Co.
STUART E. KAY
Vice President & Manager of Mfg.
International Paper Co.
AL B. LAYTON
Vice President i/c Finance and Research
Crown Zellerbach Corp.
RICHARD A. McDONALD
Chairman of the Executive Committee
East Texas Pulp & Paper Co.
HOWARD W. MORGAN
Vice President and Manager, Pulp Division
Weyerhaeuser Timber Co.
WENDELL W. MOYER
Director of Research
Crown Zellerbach Corp.
GEORGE OLMSTED JR.
President
S. D. Warren Co.
WILLIAM T. WEBSTER
Vice President
National Container Corp.
H. E. WHITAKER
President
The Mead Corporation

POLLUTION—Views of Management

Engineering Conference at Boston launches Pollution Committee project; P&P Panel gives attitude of top execs.

● A sage remark recently by a figurative park bench "Bernard Baruch" of this pulp and paper industry, who has observed the passing show for many decades, was this:

"If I were a young engineer today I would get myself interested in water. There are no more serious problems in America today than problems involving water and this involves pollution and supply and many other phases of that problem. That young man could be a great man in his later years, a great servant to his country, to its communities, to its industries."

As the population of the U.S.A. climbs at a fantastic 3,000,000-a-year rate, the problem isn't getting any simpler.

TAPPI COMMITTEE AT WORK . . . Probably that is why the TAPPI Engineering Division, now in its 11th year, finally decided to create a sanitary engineering committee, which is headed by G. M. Griffith, of West Virginia Pulp & Paper Co.

There are a lot of top management people in this industry who have worked long hours on this difficult problem, who have suffered many a headache over bigoted criticisms of the industry and grave obstacles to economically sound solutions. Many of them were not at Boston.

SERVICE TO ENGINEERS AND INDUSTRY . . . As a service to the engineers who are launching this new TAPPI project and to the industry as a whole, PULP & PAPER asked fourteen outstanding management men what their views were as to what the industry's and management's viewpoint toward pollution should be.

One of the fourteen was David L. Luke, Jr., who is president of the American Paper and Pulp Assn., as well as president of West Virginia Pulp & Paper Co. His letter—which keynotes this article—is published elsewhere.

The other 13 men, whose names appear above, were not all willing to be directly quoted. Some of them felt reticent because they held no official position as industry spokesmen. Yet many of the names above are quickly

AL B. LAYTON
Vice President,
Finance & Research
Crown Zellerbach

R. A. McDONALD
Chairman, Executive
Committee
East Texas Pulp

ROY K. FERGUSON
President and
Chairman
St. Regis Paper

ALLEN ABRAMS
(Retired) Vice
Pres. i/c Research
Marathon Corp.

H. W. MORGAN
Vice President &
Mgr., Pulp Div.
Weyerhaeuser

WM. T. WEBSTER
Vice President
National Container

GEORGE E. DYKE
President & Chairman
Robt. Gair Co., Inc.

FOLKE BECKER
Chairman of Board
Rhinelander Paper

W. W. MOYER
Director of Research
Crown Zellerbach

H. E. WHITAKER
President
The Mead Corp.

Also members of panel: George Olmsted, Jr., G. B. Bonfield, Stuart E. Kay.

Special P&P Management Panel Discusses Pollution Problems

recognized as men who have been leaders in formulating this industry's positions on pollution and stimulating its research work. Many are leaders of companies which have done outstanding jobs in pollution abatement.

But—rather than to just quote a few directly, who were willing to be so quoted—PULP & PAPER is publishing a symposium of all of their views, without the speakers being identified directly with their remarks. In this way, we are able to give more frank and interesting statements from management than might have been possible otherwise.

There is no order or continuity in these comments, all of them being made informally.

THIS IS IMPORTANT—Because a panelist's name appears above does NOT mean he agrees with everything that is said below.

Our inquiries brought forth one interesting development. The president of one of the major paper companies declined to participate in this panel because in his opinion the TAPPI engineering committee should steer clear of stream pollution—"it is not a territory for such a body," he said. He feared the engineering committee research might make it difficult for the National Council for Stream Improvement "to carry on its outstanding performance."

"Plans should be made for pollution control before a mill is located and built. If this is done, the problem becomes much easier to solve. The National Council for Stream Improvement and the appropriate state regulatory officers will be glad to help with the planning of a pollution control system, if they are consulted.

"A good defense against criticism by either the public or regulatory people is for management to know more about their problem than anyone else and to have complete records on all effluent discharged into receiving streams and the effect on the streams."

"IT CAN'T BE COMPLETELY ELIMINATED" . . . "Control of stream pollution to a practical minimum is an obvious necessity if for no other reason than that the public demands it. Complete **elimination** is, on the other hand, virtually impossible if we as a society are to continue to live in cities and to enjoy the fruits of the industrial age.

"Straight thinking on the subject demands a clear-cut distinction between two types of pollution; first, the kind that endangers human health and, second, the kind which has only economic implications. Technical authorities include pulp and paper pollution in the latter category. It behooves our industry to see that this fact is indelibly impressed on the public mind. Only when this is accomplished will public demands for abatement be rational."

"MINIMIZING POLLUTION IS ACTING IN SELF-INTEREST" . . . "Water is a natural resource that should be conserved for use to provide the greatest common good for all. Use for any purpose inescapably means pollution of the water to some degree. Industry in using water has the obligation to return its waste and wash water to the public waters in a condition that as far as possible and practical does not prevent the use of the water by others for important purposes.

"There is no section of the country in which the pulp and paper industry has not made great progress in meeting this objective, and this industry is one of the leaders in meeting the public responsibility on disposal of effluents.

"Minimizing pollution is a high level of enlightened self-interest.

"New systems for the recovery of waste cooking liquor and for the treatment of other wastes do credit to the engineers of the industry and make possible the progress that has been achieved."

INDUSTRY WILL OFTEN PROFIT . . . "Pollution is much in the public eye, because the conditions of land, water and air are vital in health and recreation. Industry should cooperate wholeheartedly with law-making bodies to develop timely and reasonable legislation. Such action will be in the public interest, and will often result in direct profit to industry."

EXPENSE IS HIGH, BUT SOMETIMES IT PAYS . . . "Obviously, as in the case of sin, management is against pollution.

"Seriously, we feel the paper companies have made great progress in the direction of abatement of air and stream pollution, and efforts are being steadily expanded. All this is calling for substantial expenditures and these are being made more palatable by savings in recovery."

PRAISES AIR POLLUTION RESEARCH . . . "We have been very interested in the general subject of pollution—and have been for a long time—and we are most specifically interested in the matter of air pollution. This is something which needs attention badly, in my judgment, and I am delighted that a well-organized research project has been set up for what I hope will be the eventual solution of this problem."

Well, it takes all kinds of sincere thinking to keep the world going around. We respect this man's opinion, but we point out he was alone in expressing it. No doubt the engineering committee of TAPPI will heed it, and work closely with the NCSI.

IT STARTED WITH ADAM . . . Ever since the first man made his rough bed alongside a river or lake, there has been pollution. It is something that can't be shoved aside as

though it didn't exist. Cities and towns, metal plants, dairy product plants, all kinds of man-made creations have kept multiplying the problems of pollution. They will be with us for a long, long time.

This industry already has spent over $85,000,000 in fighting pollution in just the past ten years—without much assurance that there ever could be any economic return for most of these dollars. This is brought out in one of the following comments.

Another point stressed by two of our panelists is that pulp and paper companies should assign their very best men to this problem.

Now listen for yourself to PULP & PAPER's panel:

IS THERE ROOM FOR ANOTHER ON "BAND WAGON"? . . . "There are so many organizations and groups which are getting on the pollution control bandwagon that I want to be sure that any new organization can serve a specific function.

"At the present time one can perhaps say that there is an engineering viewpoint distinct from management viewpoint on pollution matters, but these viewpoints must come together before a specific installation is approved.

"At the present time I would say that both management and the engineers are handicapped by the effort involved in examining the literally hundreds of specific proposals which have been proposed for dealing with pulp and paper mill effluents. The new pollution committee could perform a worthwhile service by analyzing and comparing the basic engineering data which can be obtained or calculated for the various waste disposal schemes. If the engineers will dig out the basic facts on each process and indicate the advantages and disadvantages for the various types of mills and geographical locations, then our management people would be in a much better position to decide on what should be done in the areas where they have trouble."

DELEGATE A TOP MAN TO THE TASK . . . "One of the great problems facing the paper industry is going to be the pollution problem. There is no quick and easy answer to it because every situation almost requires special treatment.

"However, top management in the larger paper companies are very conscious of this now and I think in each case they are assigning the responsibility to a senior officer experienced in production and some feeling of public responsibility. Of course, in the smaller companies this responsibility falls either on the president or vice president.

"This is one of those management responsibilities such as labor relations, public relations, and others that cannot be delegated too far down the line."

BEST TALENT ON THE JOB . . . "Of course, we are in favor of stream improvement, and we are supporting the idea both financially and with some of the best talent we have in the company. All paper mills have this problem, and great progress has been made on all sides."

INDUSTRY HAS SPENT OVER $85,000,000 . . . "We believe that management has a real responsibility to press vigorously the abatement of pollution of both water and air, as an integral part of its concern for the public interest. The American pulp and paper industry has in general manifested this responsibility by carrying out pollution abatement programs conservatively estimated at well over $85 million during the past 10 years, and real progress has been made.

"Further progress naturally involves scientific, engineering, and economic considerations—for we need better answers about more effective treatment of waste disposal, and we need better answers about converting objectionable waste materials into useful products. We are confident that many research efforts within the industry will enable pulp and paper companies voluntarily to continue living up to their public responsibilities in pollution abatement."

Eventually Pollution Will Be Licked—Luke

This industry will keep after the pollution problems until they are licked.

That prediction is made in a letter to PULP & PAPER from David L. Luke, Jr., president of the American Paper & Pulp Association and also president of West Virginia Pulp and Paper Co.

He is one of the management men to whom PULP & PAPER addressed its inquiry concerning the attitude of the industry leadership toward pollution and toward the new committee of the Engineering Division of TAPPI which launched its program at the Engineering Conference in Boston. Here is what Mr. Luke wrote on the subject:

DAVID L. LUKE, Jr., Pres. of American Paper & Pulp Assn., and Pres. of West Virginia Pulp and Paper Co.

West Virginia Pulp and Paper Company
230 Park Avenue
New York

September 28, 1956

Mr. Albert W. Wilson, Editor
Pulp & Paper
1791 Howard Street
Chicago 26, Illinois

Dear Mr. Wilson:

We've great respect for the communities in which we operate. We try to show our respect by being good citizens, which is to say that our interest in the alleviation of pollution is great. We believe that a continuing awareness of the problem, coupled with a continuing desire to solve it, will result in continuing and noticeable improvement in the condition of the streams.

Sincerely yours,

David L. Luke Jr

IT IS AN ENGINEERING PROBLEM . . . "Management must first recognize that pollution control and abatement within reasonable limits is definitely a part of management's responsibility. It is also an engineering problem and must be solved along sound engineering lines.

A CHALLENGE TO SCIENTISTS: TO MANAGEMENT A PROBLEM . . . "To the average layman, stream pollution is a mystery of which he sees only the end result. To the scientist, it is a fascinating and complex study demanding his every resource to understand. To management, stream pollution is an ever-increasing problem, to the solution of which he must devote objectively much thought and effort.

RAPID TAX WRITEOFF WOULD HELP . . . "Basically, the problem of pollution abatement could receive additional impetus if a rapid tax depreciation were available to industry for the dollars spent in both studying the problems and in actual cost of equipment used to reduce the pollutional characteristics of their wastes.

"In setting standards for any given stream or lake full consideration must be given to the concentration of population it serves. Where the concentration is heavy, we feel that the recreational standards set must be secondary and in some instances given no consideration at all. The restrictions regarding the use of these waters should be confined to safeguarding human health.

"The engineering viewpoint in pollution abatement is certainly integrated with management's but is more directly concerned as to what type of equipment is available, its cost and space requirements.

"Here again, the necessity of fundamental research can give the design data necessary for the engineers to put into practice equipment that can reduce the pollution characteristics of the plant wastes and still meet the minimum restrictions established by the various regulatory agencies."

GOOD FOR PUBLIC RELATIONS . . . "We feel that management in general is more and more realizing that pollution abatement is not something to be treated lightly, but should receive its most serious consideration. To the extent that remedies are available that are economically sound, I believe you will find that managment today is making the funds available for pollution abatement projects.

SPECIAL REPORT FROM BOSTON

"Dream" Coming True?

Automatic startup of machine wet end "unveiled" at Boston Engineering meeting; new digester protection described

• For the first time in papermaking, the Kapuskasing, Ont. mill of Spruce Falls Power & Paper Co. is successfully operating a completely automatic centralized graphic panel control of the entire wet end of a paper machine.

The installation started out as a "trial" but it has been so successful on the No. 4 machine at "Kap" that Kimberly-Clark engineers will make a similar installation on the No. 3 machine there, which will have a new drive and be speeded up to 2500 fpm. Complete and smooth startup of the machine from Bird screens to Fourdrinier is achieved in 7 min.

This was described at the 11th TAPPI Engineering Conference in Boston as a long step toward realizing a modern "papermakers' dream"—the automatic paper mill.

(Close readers of PULP & PAPER will recall that a "tip-off" that this was coming, and that development work was being done, was published in these columns several months ago.)

In a paper prepared by Garnet M. Eastwood of Spruce Falls and by Marvin M. Gade of Kimberly-Clark, Neenah, Wis., for the TAPPI Engineering Conference held in Boston in early October, the operation was described. Functions controlled are basic. Instruments and control stations were placed on a centralized, graphic-type control panel. Some special features are:

1. A multi-unit timer controls the start-up sequence, with indicating lights to show proper operation.

2. The sequence stops while the wire pit is filling.

3. Wire pit temperature steam control valve is kept closed until the wire pit level is high enough to cover the steam distribution pipe.

4. White water valves are interlocked to prevent faulty operation.

5. The head on the slice is controlled by altering the fan pump discharge. A speed transmitter driven by the couch drive automatically adjusts the set point of the head in accordance with the relationship between the theoretical and paper makers head.

AUTOMATIC MILL OF FUTURE "A CERTAINTY" . . . Both G. Garnet Eastwood, who gave the paper, and several prominent engineers and paper mill executives who heard him, were agreed that the automatic mill is the ultimate goal. Mr. Eastwood said it was "one of several plateaus the industry will have to attain" before the automatic mill is a reality. The automatic mill is now a certainty, some distinguished listeners told PULP & PAPER.

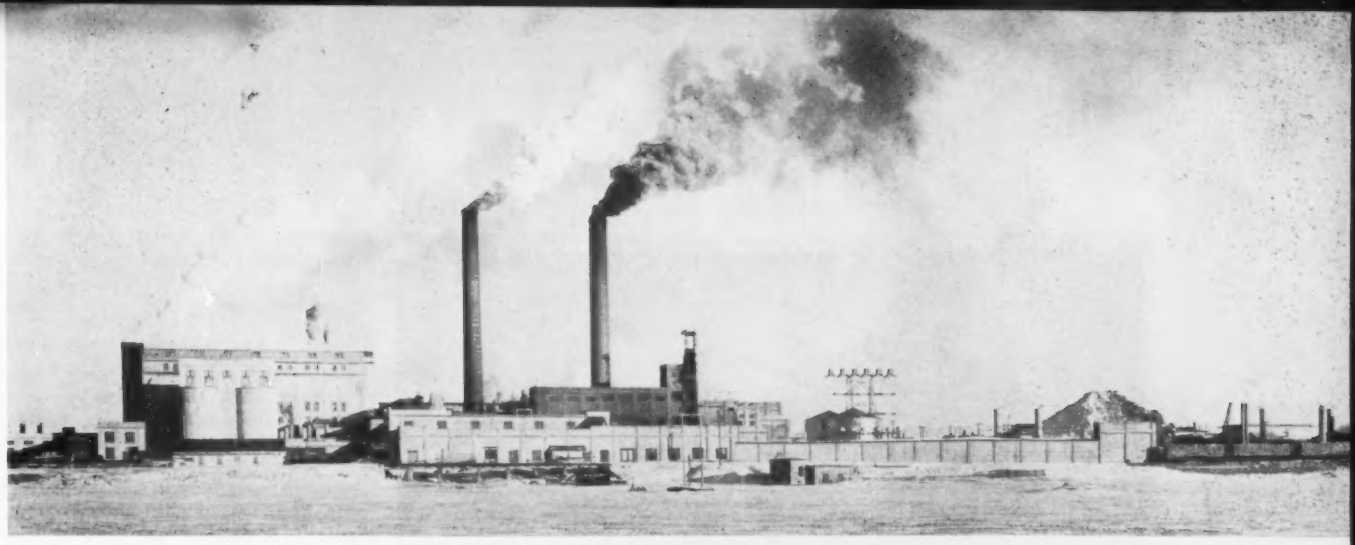
Mr. Eastwood and Marvin Gade, both instrumentation automation engineers in the chemical engineering laboratory, Research and Development Div., Kimberly-Clark Corp., Neenah, Wis., were co-authors. Mr. Eastwood had been instrument engineer at the Kapuskasing mill while the installation was made and put into use.

The automatic startup includes a graphic panel on which are miniature models of various machine parts. It eliminates many menial operations, climbing up and down to open valves, to set gauges and inspect tanks, etc.

Mr. Eastwood said the entire cost in Canada was $27,000; including basic instrumentation, $19,000, centralization, $4,000, graphic equipment, etc., $3,200, and about $800 for automatic features. The cost would be less in the U.S.A., he said.

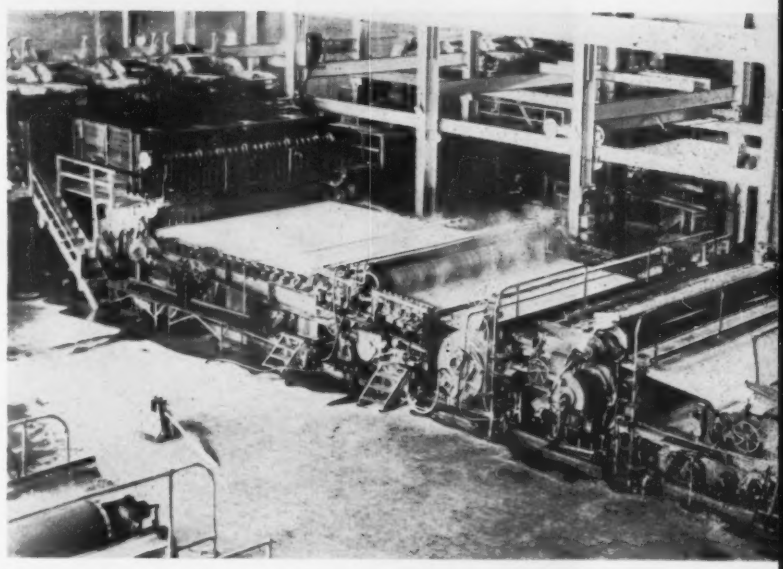
There was a very slight but not significant, increase in production. Long delays have been eliminated. Certain types of breaks also were greatly reduced. A few old-time operators are not using the automatic startup, as there is still alternate provision for manual operation, but most of them are using it. Mr. Eastwood described the startup as an "integral" part of the machine.

Mr. Eastwood said any sudden or drastic speedup, of, say, around 200 fpm, creates a time lag during which thinner stock goes to the Fourdrinier



WHERE PAPERMAKERS' DREAM IS COMING TRUE. Automatic startup of wet end of paper machine was developed here at Spruce Falls Power & Paper Co. "Far North" mill at Kapuskasing, Ont., where G. M. Minard is Vice Pres. and Gen. Mgr., Andreas Christensen is Production Mgr., and C. W. Boast is Chief Engineer.

Garnet Eastwood of the Spruce Falls mill and Marvin P. Gade, of Kimberly-Clark, prepared paper revealing the automatic startup at 11th Engineering Conference held in Boston on Oct. 8-10.



WET END OF ONE OF FOUR 234-IN. MACHINES AT "KAP" . . . This is the Spruce Falls mill's No. 2 newsprint machine. All four are same size (225-in. trim) and make paper for New York Times. It was on such a machine that Kimberly-Clark's engineers developed the revolutionary automatic wet end start-up.

until the headbox builds up its level.

A major electrical equipment company engineer asked "if any thought had been given to the automatic programming of orders for different paper grades by punch card or tape." Although this drew a few chuckles, some top engineers later said seriously: "That's the next thing."

NUCLEAR POWER FOR MILLS IN 10 YEARS? . . . John W. Landis, formerly with the Atomic Energy Commission and now assistant manager of Babcock & Wilcox's atomic power division, told the Engineering Conference that "nuclear power should be in use in the pulp and paper industry within the next ten years."

He said the costs of a 150 megowatts (of heat) plant with a pressure water reactor and aluminum insulation would cost at a rate of about 60 cents per million btu's. Engineers in his audience said this is comparable to about the same costs in New England, the Southeast and other areas of the country. This included 35 cents capital investment.

A 150 megowatt plant is about equal to a steam plant producing 500,000 lbs. of steam. He said plants could be close to cities. As an example, he said the AEC would undoubtedly approve a plant at the Union Bag mill on the outskirts of Savannah.

There is a great deal of preliminary engineering necessary at considerable expense and a very thorough check is made by the AEC reactor safeguard committee of AEC.

At Indian Point, N. Y., Babcock & Wilcox is building a pressurized water reactor setup for Consolidated Edison within a half mile of a populated area. When the temperatures go up, this type of plant tends to quench its own reaction. Waste materials would be buried in the ground.

Important point: the container plant for such a reactor installation might need to be only about 18 ft. high, as compared with pulp and paper steam plants which are being built for mills up to 20 stories high today.

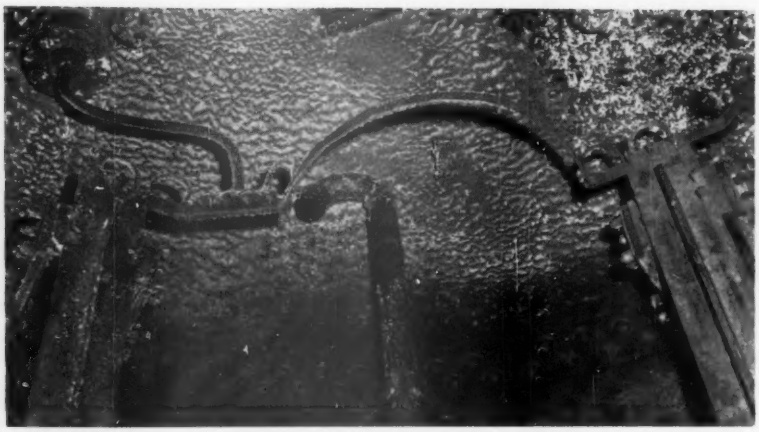
Electrical power and steam production can be combined. For a 500 megowatt plant, bigger than this industry needs, it had been calculated that electrical power could be produced at 13 mills per kilowatt hour, combined with steam production.

It is not necessary to man such a plant with "ph.d's" or scientists; ordinary workman can operate it, he said.

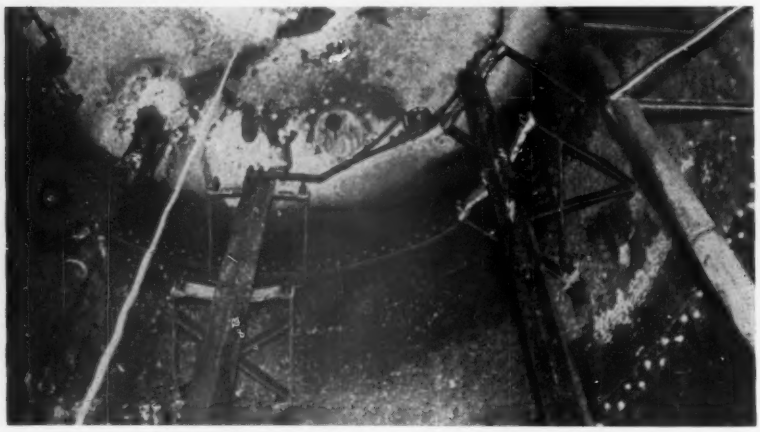
CORROSION COMMITTEE INTENSIFIES STUDIES . . . An important decision announced at the Boston Engineering Conference was that the activities of the Corrosion Committee under chairmanship of Steve Baisch, design engineer in charge of engineering at Thilmany Pulp & Paper Co., is going to split into five sub-committees to continue corrosion research on a nationwide basis in (1) alkaline pulping, (2) acid pulping, (3) neutral sulfite pulping, (4) bleaching, and (5) miscellaneous corrosion problems.

They will study "the 27 most bothersome corrosion areas." Replies from 117 mills to a questionnaire survey conducted by Mr. Baisch, and Frank E. Hutton, of Babcock & Wilcox Co., brought information that these were generally in chemical pulping liquor cycles, bleaching, alum handling, cylinder machine wires, Fourdrinier wet ends, wet strength use and atmospheric corrosion of building structures.

An unusually large attendance of engineers in stainless and nickel and



THIS DID THE TRICK. Here's what cathodic unit looks like in No. 3 soda digester at Penobscot. Rate of corrosion prior to installation was .232-in. per year vs. .064-in. at last reading in 1956.



CATHODIC PROTECTION IS FOUR CARBON STEEL ANODES, 6 in. wide, ½-in. thick and 10-ft. long, spaced equidistantly around inside of digester and insulated from digester shell with Teflon.

All photos courtesy of Penobscot Chemical Fibre Co.

alloy fabrication ceramics fields, manufacturers of pumps, valves, etc. were especially interested in these developments.

An intriguing approach to digester corrosion by cathodic protection was one of the highlights of the 11th Engineering Conference in Boston. Authors were Franck P. Morrison, supt., soda division, Penobscot Chemical Fibre Co., and Hal M. Canavan, Mutual Boiler and Machinery Insurance Co.

It was some five years ago that Penobscot decided to embark on a long-range research program to reduce digester corrosion. From time to time the industry has heard reports that "Penobscot was doing something revolutionary" to control digester corrosion. The wait was long until they heard the full story but in the opinion of some corrosion experts, it was worth it.

A 99-in. diameter digester was selected. It had three courses riveted construction, each 10-ft. high. The rate of corrosion, prior to Jan. 1952, based on drilling of the top course, was about .232-in. per year; and on the middle course, .158-in. based on minimum thickness readings.

A new top and middle course were installed and cathodic protection installed. This was comprised of four carbon steel anodes, 6-in. wide, ½-in. thick and 10-ft. long, spaced equidistantly around the inside of the digester and insulated from the shell with Teflon.

A lead to the anodes was brought into the digester through a Teflon insulator and the system started operating July 1952 with 5 to 8 amps and 70 to 78 volts.

One year later, digester corrosion rates had dropped to .099-in. per year for the top course and .070-in. for the middle course.

In June 1953 the current was increased to 30 amps, to 40 amps in September and to 120 amps in April, 1954.

From July 1952 to April 1954, while the current was increased from 5 to 40 amps, the average corrosion rate on the top course was .125 in. per year, calculated on the thinnest area in the digester.

From April 1954 to April 1956, said Mr. Morrison, while using 120 amps, average corrosion was .065-in. per year based on the minimum thickness of the top course.

PULP & PAPER asked Mr. Morrison his own opinion of this system. Here's how he summed it up:

"Prior to establishing the ultrasonic testing devices and the establishing of a standard grid pattern, digester corrosion was .232-in. per year based on the minimum thickness found in the digester. From July 1952 to April 1954, corrosion rate was .125-in. per year; while the rate from April 1954 to April 1956 was .064-in. per year."

"These figures are encouraging," he emphasized, "but it is felt that considerably more information is required and that the project should be extended."

"WHAT IS STREAM POLLUTION?" . . . J. M. Holderby, of Rhinelander Paper Co., stressed the need for educating the public to the true nature of the problem. He said unfortunately the public thinks of all stream pollutants as meaning "disease and death," which is untrue in case of many industrial effluents.

"The Engineering Aspects of Pollution Abatement." W. A. Moggio, former engineer with the National Council for Stream Improvement, said "the engineer's part in this work is decisive." He outlined techniques to determine amounts of pollution and abatement measures. Mr. Moggio is

NOVEL APPROACH TO DIGESTER CORROSION—cathodic protection—was subject of paper presented to Engineers by HAL M. CANAVAN (left), Mutual Boiler & Insurance Co., and FRANCK P. MORRISON (right), Supt. Soda Div., Penobscot Chemical Fibre Co.

YANKEE HOSPITALITY . . . These executives of New England firms were among hosts who integrated plant tours with TAPPI Engineers Meeting in Boston (l to r): CHARLES S. BARTON, Pres., and WILLIAM E. BRIGHT, Asst. to Pres., Rice Barton Corp., Worcester; JOHN P. RICH, Pres., Improved Machinery, Inc., Nashua, N.H.; ALEXANDER JENKINS, JR., Sales. Mgr., Pulp and Paper, Bird Machine Co., South Walpole; HAIGH M. REINIGER, Vice Pres. i/c Sales, John W. Bolton & Sons, Inc., Lawrence; JOHN JEPPSON, Vice Pres. and Gen. Mgr., Norton Co., Worcester.

now with East Texas Pulp & Paper Co., where he engineered the elaborate effluent disposal system used there (see PULP & PAPER May 1955 issue).

George Griffiths, West Virginia P&P engineer, and chairman of the new sanitary engineering committee, said one of the committee's purposes is to enlighten engineers rgarding the work done for years by the National Council for Stream Improvement and not to duplicate NCSI activities.

NEW AQUAVAC INSTALLATION . . . Jack Mazer, chairman of the board, Hudson Pulp & Paper Corp., inventor of Aquavac, brought the TAPPI Engineering Conference in Boston up to date since this unit was first installed at the suction couch roll on a paper machine at their Bellows Falls, Vt. mill (premiered in PULP & PAPER, March, 1956.)

(For those who may have missed this story, Aquavac is a device to increase drying capacity and speed up paper machines. This is effected by discharging steam in measured amounts and condition over the suction area of paper machine wires and felts. Heating the web and steam condensation passing through the web, result in greater water removal.)

PULP & PAPER has since learned that an installation was made on a 220-in. trim Fourdrinier at Hudson's Palatka, Fla., mill over three suction boxes. This machine, on 90-lb. wrapper stock, had been making 10.82 tons per hour. Within 30 mins. after installation of the Aquavac unit, production rose to 11.87 tons per hour, an increase of one ton per hour.

Other advantages cited by Mr. Mazer in his talk:

Heating of the web and condensation of steam passing through the web result in greater water removal. These are brought about by increased vacuum in suction boxes and lower viscosity in water contained in the web.

Temperature increase to date is 60°F; vacuum increases of 3-in. to 4-in.

Moisture content of sheet going through the dryers decreased.

Better quality can be expected due to less tendency of sheet to crush in the presses.

Capacity increases to date have been about 10% without any changes to existing equipment on the machines.

NEW DEVELOPMENT IN TENSION CONTROL . . . A new tension control device has been successfully operated on two of the world's fastest newsprint machines at Bowaters Southern Paper Corp.

Johnny Osborne, electrical superintendent at the Calhoun, Tenn., mill, and Walter A. Mikelson, General Electric Co., collaborated in explaining this revolutionary new procedure at the Boston Engineering Conference.

Bowaters is using a paper tensiometer to automatically and continuously control paper tension. Results: Fewer paper breaks on the machine, improved quality, less waste, less down time, and an overall lowering of production costs. Tension of moving sheets is held constant regardless of changes in any variables affecting tension, such as freeness, consistency, dryer temperature, moisture content, calender stack loading or friction load variations.

HOW IT WORKS . . The small, 4-in. long roller on the tension head rides the moving sheet so that a slight "dimple" is depressed into the sheet. Variations in tension change the air gap of a magnetic structure inside the device which emits an electrical signal proportional to paper tension. This is transmitted through the power unit which contains metering circuits, indicating instrument, and operator's controls. The tensiometer gives a continuous and accurate indication of tension variations without damage to the sheet. These units have been in successful operation, giving "relatively trouble free performance" for three years.

AQUAVAC INSTALLATION UPS PRODUCTION 10% in 30 MIN. This unit—described at Boston Engineering Conference—on 90-lb. wrapper stock on a 220-in. trim Fourdrinier at Hudson Pulp & Paper Corp's. Palatka, Fla., mill, increased production from 10.82 tons per hour to 11.87 tons within 30 mins. after installation. Plans are to install additional units over other suction boxes.

"This is a new development for the paper industry," said Mr. Osborne, "and its application from 100 fpm to over 2200 fpm, testifies to the effectiveness of this new method of draw control."

LYALL SERVES ANOTHER YEAR . . . John Lyall of Armstrong Cork Co. serves another year as chairman of the Engineering Division.

One of the many innovations made by the foresighted past chairman, Charles Sibler, West Virginia P&P chief engineer, was to have an assistant chairman training for his future duties. Thus, John Ray Curtis of Scott Paper Co., now vice chairman, is slated eventually to become head of the division.

For the first time in these meetings, there was a woman's program, in which 158 women took part. Mrs. Ernest (Muriel) Stone, wife of the sales manager of Rice Barton, was in charge. She put together an exceptional program, which included tours of Boston, Concord, Lexington and other historic points, the universities at Cambridge, the famous Mrs. Jack Gardner's Palace, the glass botanical exhibits in Agassiz Museum, a fashion show, bridge party, etc.

Another innovation was the launching of an Economics committee.

Total registration was 936—a record. The 1957 meeting is set for Cincinnati; 1958 for Seattle, Wash.; 1959 for Pittsburgh. There are tentative plans for decades ahead, with Boston back on the schedule for 1974.

CONSIDERABLE COOPERATION AND HARD WORK BY CHAIRMEN made success of Engineers Meeting a sure thing. Among the hard working committeemen and participants were (l to r): JOHN D. LYALL, Proj. Engr., Armstrong Cork Co., who chairmanned the conference; J. R. CURTIS, Dir. Mech. Research, Scott Paper Co., vice chairman of Engineering Div.; JAMES M. McALEAR, Mgr. Pulp and Paper Mill Dept., Mason-Neilan Div. of Worthington Corp., chairman of local committee; J. H. HEMPHILL, Johns-Manville Sales Corp., chairman of Data Sheets Committee.

(L to r) JOHN N. MacBRAYNE, Union Bag & Paper Corp., chairman of Industrial Engineering committee; GEORGE W. GRIFFITH, West Virginia P & P Co. (not shown), chairman of Sanitary Engineering; KENNETH J. MacKENZIE, Eastman Kodak Co., chairman of Hydraulics; M. J. (JOHNNY) OSBORNE, Bowaters Southern Paper Corp., chairman of Electrical Engineering.

(L to r) ED H. OLMSTEAD, Eaton-Dikeman Co., chairman of Drying and Ventilating committee; STEVE BAISCH, Thilmany Pulp & Paper Co., chairman of Corrosion; C. WAYNE SMITH, Inland Cont. Corp., who made an important corrosion report; NICHOLAS SCHOUMATOFF, West Virginia Pulp and Paper Co., chairman of Fluid Mechanics session.

The Engineering Conference—1946 Goals Are Still Important

W. Irving Osborne, Jr., who was then the president of the National Paperboard Assn., keynoted the first Engineering Conference ten years ago. He was also president of Cornell Wood Products Co., now Cornell Paperboard Products Co., and still is that company's chief executive.

It was in the Pfister Hotel in Milwaukee, long before that town had a major league ball club, so there were no distractions, such as a World Series. The meeting was held the first of October, as was this year's meeting. But the recent Boston meeting demonstrated that even with a World's Series many miles away, lots of engineers are TV fans.

Mr. Osborne set two goals for the engineers of this industry back in 1946:

1. To help the pulp and paper industry to meet the competition of light metals and plastics.

2. To find technical methods keeping paper and paperboard products "at reasonable cost," because "we cannot expect that either wages or the cost of our raw materials will go back to pre-war levels."

This was just a year after the war's end. Mr. Osborne spoke prophetically, as the intervening decade has revealed. Wages and costs continued to rise and, therefore, automation and other engineering devices were needed to help keep this industry competitive.

Directly and indirectly, many of the projects carried on through these ten years by the Engineers' Division of TAPPI have contributed toward achieving these goals. Yet, at Boston, many engineers were still talking of these two goals as essential to further industry progress.

LOOK FOR MORE NEWS OF 11TH ENGINEERING CONFERENCE IN DECEMBER ISSUE

SCENE OF $40 MILLION EXPANSION PROGRAM of former Brown Paper mill at West Monroe, La., which will roughly double in size, continue to produce kraft bag and paper for Mathieson's brand-name line, Frostkraft bags. Pulp quality will be upgraded.

A SPECIAL PULP & PAPER REPORT

What's Really Happening at Monroe?

Here is revealing story of Olin Mathieson's carefully calculated venture in complete forest utilization

For four years, Olin Mathieson Chemical Corp. has been quietly shuffling properties and building a compact, self-sustaining domain in central Louisiana based on integration and utilization. Will Olin Mathieson's interest in chemical pulps and special processes such as cellophane spread to West Monroe? PULP & PAPER's Southern Editor thinks not and here's the reason why.

• Since 1952, when it bought out the sprawling forest interests of the Frost Lumber Industries in Louisiana, Arkansas and Texas, Olin Mathieson Chemical Corp. has been steadily fitting together the pieces of an elaborate jigsaw puzzle. The puzzle is not yet complete but enough of the pieces are in place to tell a story.

Speculation has been rife over just what is going to happen at West Monroe, La., home of the Olin Mathieson-owned former Brown Paper Mills and headquarters of its Forest Products Division, headed by quiet, deliberate Robert H. Evans, divisional vice president in the gigantic Olin Mathieson enterprise. And because much of this speculation has been based on Olin Mathieson's previous roles in the fields of chemicals, dissolving pulp, cellophane and bleaching agents, a lot of it has been incorrect—or at best misguided.

Despite guesses that high alpha cellulose or dissolving pulp for cellophane plants would eventually be made at West Monroe, the management has been quiet. It merely continued in the undeviating task of putting more pieces of its Louisiana dominion together, never commenting one way or the other on outside guesswork.

Olin Mathieson Chemical Corp. had already entered the paper industry with its acquisition of the Ecusta Paper Corp., far to the east in North Carolina, but Ecusta was a different kind of property from Brown. The Ecusta mill made flax-base cigaret paper; Brown was a kraft mill. When Mr. Evans, a former officer of Riegel Carolina Corp., took over in Louisiana it seemed fairly certain that dissolving pulp would be on the agenda.

Actually, the purchase of the Louisiana Brown Paper Mills must be viewed in its proper perspective—merely as part of the overall project rather than as the pivot point of the Olin Mathieson program in Louisiana. Its acquisition last September fulfills a long-range program which began shaping up when the Korean War ended and Olin shelved plans to build a dissolving pulp mill at Spencer, La., 25 miles north of Monroe, and allowed its certificate of necessity to lapse. This venture is designed to completely utilize to the best possible advantage all the forest raw materials at Olin Mathieson's disposal in the area. The tree is the pivot point of the program, not any single production plant.

SOME SURPRISING PROPERTY TRADES . . . The remarkable juxtaposition of Olin Mathieson's varied Louisiana interests forms an essen-

tially simple growth pattern. And yet, taken one by one, some of the facets of this pattern do seem confusing: i.e., the company announced a $40 million expansion of its paper facilities, about the same time that it turned around and sold 395,000 acres of newly acquired timberland to International Paper for $33 million; Olin Mathieson disposed of several sawmills following the purchase of a sawmill at Winnfield, La., smack in the heart of Robert Gair's newly acquired Louisiana timber; Olin abandoned plans for a dissolving pulp mill, then bought a 650-tons-a-day kraft mill.

A CHANGE IN PLANS . . . Olin first began acquiring holdings in Louisiana with the purchase of Frost Lumber Industries, a firm that owned four sawmills, retail lumber yards and some 435,000 acres of timber in Louisiana, Arkansas and east Texas. This was 1952. Plans for a dissolving pulp mill were hot. Dissolving pulp was used to fire most middle and light army weapons. When the Korean War ended, that idea went out the window. Since it owned much timber and various facilities for turning it into marketable products, the Forest Products Division began thinking in terms of an overall integrated operation which would encompass complete utilization.

In Brown Paper Mill Co., it found the perfect answer. Here was an integrated pulp and paper mill rated at 650 tons a day with four associated converting plants right at the mill (consuming 90% of the product), plus about 465,000 acres of prime timber, 331,720 acres of it in Louisiana. And with it came another big asset—an unusually high percentage of the Brown timber was high quality sawtimber which, when combined with the Frost assets, suited the company's plans for diversified forest utilization.

Olin Mathieson Chemical Corp. now owned 900,000 acres of timber in the three-state triangle and thus began a remarkable series of "horse trades." Some 395,000 acres lay in outlying areas where freight rates were not conducive to economical shipping. Olin began looking for a buyer and found a ready market in IP, which was preparing to break ground for its $57 million newsprint and bleached braid mill in Pine Bluff, Ark. The $33 million paid by IP for the timber went into Olin Mathieson's general operating fund for expansion —almost enough to cover the cost of the projected expansion at Monroe. At the same time Olin disposed of several sawmills which then became "out of range" of its gradually tightening theater of operations. Olin Mathieson now had a paper mill plunk in the middle of 500,000 acres of prize timber.

A COMPLETELY INTEGRATED OPERATION is the target of Olin Mathieson's Forest Products Division at Monroe. Here, in the woods, is the base from which it will produce everything from kraft paper to casual furniture.

NOTHING IS WASTED IN OLIN MATHIESON PLAN. Here is chip conveyor installed at its modernized Huttig, Ark., sawmill. Similar installation is used at Winnfield, La., sawmill, equi-distant from West Monroe paper mill to the south. Sawmills are integral part of project.

THE "HORSE TRADING" CONTINUES . . . The former Frost mill at Huttig, Ark., was already an integral part of Olin Mathieson's increasingly compact Louisiana domain. It had been modernized into one of the finest in the Southwest and was already manufacturing chips from sawmill waste to the paper mill. Furthermore it is ideally located near the Arkansas line at the northern edge of Olin Mathieson's timber holdings.

Now the company looked to the south and, at Winnfield, La., found what it wanted: a sawmill with the same potential as the Huttig operation and located at the southern edge of its forest holdings. They acquired the Winnfield mill from Mansfield Hardwood Lumber Co., then in the process of selling its holdings to Southern Advance Bag & Paper Co. at Hodge, La. Modernization of facilities began immediately and Winnfield was "upgraded" into a class with the Huttig mill.

UTILIZATION PICTURE FALLS IN PLACE . . . With its two sawmills equidistant (50 miles) from the paper mill and on the orbit of its timberlands, Olin Mathieson's farflung utilization plan began to take on operational scope. The two sawmills accommodated all the sawtimber and, in addition, provided several thousand

cords of chips to the paper mill every month. Earlier, three retail lumber yards had been disposed of and minority interests bought in a flooring plant, furniture plant and the Arkansas, Louisiana and Missouri Railway.

The flooring mill, since destroyed by fire, is being rebuilt on a master scale. Using the trade name Frost, Olin Mathieson is now in a position to channel almost every stick of wood into a profitable, company-owned enterprise: Wolmanized lumber and Frost treated poles come from the two treating plants at Shreveport ("We have four treating cylinders—enough to make us fairly respectable"); Frost Golden Pine and hardwoods are produced in the two sawmills; Frostbrand flooring at the Shreveport mill; Frost casual furniture at the furniture mill.

The final step in this program is to be the complete overhaul of the former Brown properties including a complete rebuilding of the mill from wood yard to finishing room. There has been a reshuffling of personnel to unify sales and manufacturing activities.

When Olin Mathieson purchased the Brown Paper Mill Co. and its associates, it included five separate manufacturing plants, five separate sales staffs and three different truck fleets, all of which were operated independently and in many instances in competition with each other. Its products included several different brand names; Brownie, Kraftco, etc. Under the new management, all departments have been unified into a single organization and the various brands of multiwall sacks, shipping containers and grocery bags have combined into one principal product—Frostkraft—which has been widely publicized in national and trade journal advertising.

Olin Mathieson, according to Mr. Evans, is in the kraft business to stay. The expansion of the paper and pulp mill will be carried out in line with this philosophy. Pulpwood and chips from its own Louisiana interests will be converted into kraft at West Monroe. The proposed expansion will be engineered by H. A. Simons, Ltd., Vancouver, B.C., consultants in construction of Canadian mills and of East Texas Pulp & Paper Co.

At present, the paper mill has 16 rotary digesters, four 176-in. Fourdriniers, one 134-in. Fourdrinier and 20 Sutherland refiners. Details on expansion have not been announced but it is expected that these facilities will be roughly doubled.

TOP MEN JOIN THE DIVISION . . . To assist in the upgrading of quality and quantity at the paper mill,

IN TOP ECHELON OF FOREST PRODUCTS DIVISION are MARJEN H. COLLET (left), Transportation and Procurement Manager of the division, who returned from South America to take over; WALKER HAMILTON (middle), retired Riegel Paper Corp. President, who will act as advisor in the expansion of the kraft facilities at West Monroe; and ROBERT H. EVANS, Vice President of the Forest Products Division.

Walker Hamilton, retired president of Riegel Paper Corp., a pioneer producer of semi chemical pulp and chlorine dioxide bleached pulps, has joined the Forest Products Division as an expansion consultant. Dr. David C. Lea, formerly of Potlatch Forests, Inc., and a ph.d. from the Institute of Paper Chemistry, the new research and development manager, has the job of developing a "top flight" research department at Brown. It seems logical to assume that they will investigate any processes designed to fully utilize wood.

Also prominent in the top echelon at the Forest Products Division are T. R. (Teddy) Moore, formerly of Brown and a veteran kraft mill operator in the South, who as vice president for paper operations heads up all manufacturing operations except lumber; W. H. Brown, a Frost veteran, who will direct lumber manufacturing operations; James Wallace, who manages the sales department, now unified into one with separate managers for various products; and Marjen H. Collet, late of Rigesa, S.A., a Brazilian subsidiary of West Virginia Pulp and Paper Co. and a former associate of Mr. Evans when they worked together in the pulp and paper division of the War Production Board during World War II. Managers of forestry, wood procurement, railroad, purchasing and traffic departments will report to Mr. Collet, who directs all transportation and procurement. He was, before going to South America, assistant to the vice president of West Virginia in charge of pulpwood and forest management.

That is how Olin Mathieson Chemical Corp. story shapes up in Louisiana. It is interesting for many reasons, not the least of which is the fact that Olin Mathieson, starting from scratch, has built up a carefully calculated organization designed to fully utilize and market all its forest products.

Rayonier Is Granted Year Extension of Shelton Permit

The Washington State Pollution Control Commission has issued a temporary permit to Rayonier, Inc., for another year of operation, extending to Aug. 28, 1957. The permit calls for a number of conditions to be met prior to issuance of a permanent permit.

Rayonier technicians are working with technical personnel of the Pollution Control Commission regarding the carrying out detailed requirements for a permanent permit. A 13-item slate of conditions includes routine improvements and safeguards which can be effected with only minor expenditures or changes in mill operating procedures; however, one condition strongly presupposes that Rayonier will construct a lagoon for collection of white water, bleach water and hydraulic barker effluent and subsequent reduction of suspended solids to a minimum.

Rayonier estimates it disposes of 97% of sulfite waste liquor through evaporation and burning, leaving only 3% carried off with the fibers and discharged during washing and bleaching.

A New Fuller Product

Hank Stoess, sales engineer of the Fuller Co., points out that in a recent story about Brown Co., Berlin, N.H., conveying equipment was erroneously credited to another manufacturer. We are glad to publish his comment: "The feeder from the chip screens to the Fuller Airveyor system is part of our Airveyor system, and, is one of our new type rotary chip feeders. It is an integral part of our Airveyor, of special design, that feeds the chips directly from the pockets of the rotor into the conveying stream."

SPECIAL AIRVIEW OF WEYERHAEUSER'S BIGGEST PULP PROJECT . . . Main buildings are pointed out and named. January startup is scheduled for this 400-ton pulp mill, a new major industry for the little town of Cosmopolis, Wash.

Engineering Feats in Mill Building

Weyerhaeuser project speeds to January startup. Uses MgO system. How builders beat rain with new technique

• The largest single construction project ever undertaken by Weyerhaeuser Timber Co., its new 400-ton sulfite mill at Cosmopolis, Wash., is rapidly nearing its climax. WTCo Pulp Division officials predict the startup early in January.

Several other Weyerhaeuser manufacturing plants are actually larger than the Cosmopolis project, but they started out smaller and grew up gradually. Schedule-wise, this latest mill is going up in a shorter time than have previous big WTCo projects. It will employ 300 people.

It is one of the few new sulfite mills to be undertaken in recent years.

The Cosmopolis mill will utilize the MgO process, thus becoming the third mill to use magnesia instead of the customary calcium base for sulfite cooking, thereby making possible major recoveries of chemicals used, as well as recovery of heat energy. Weyerhaeuser at Longview converted to MgO several years ago, and Ketchikan Pulp Co. in Alaska, started up in 1954, operates on magnesia. Weyerhaeuser, Howard Smith Paper Mills of Canada and Babcock & Wilcox jointly share the patents covering the magnesia base cooking and recovery cycle.

With the addition of the Brown Co., there will soon be four mills using the MgO cooking and recovery system. Brown's plant at Berlin, N. H., has recently bought recovery equipment for converting their sulfite plant to MgO.

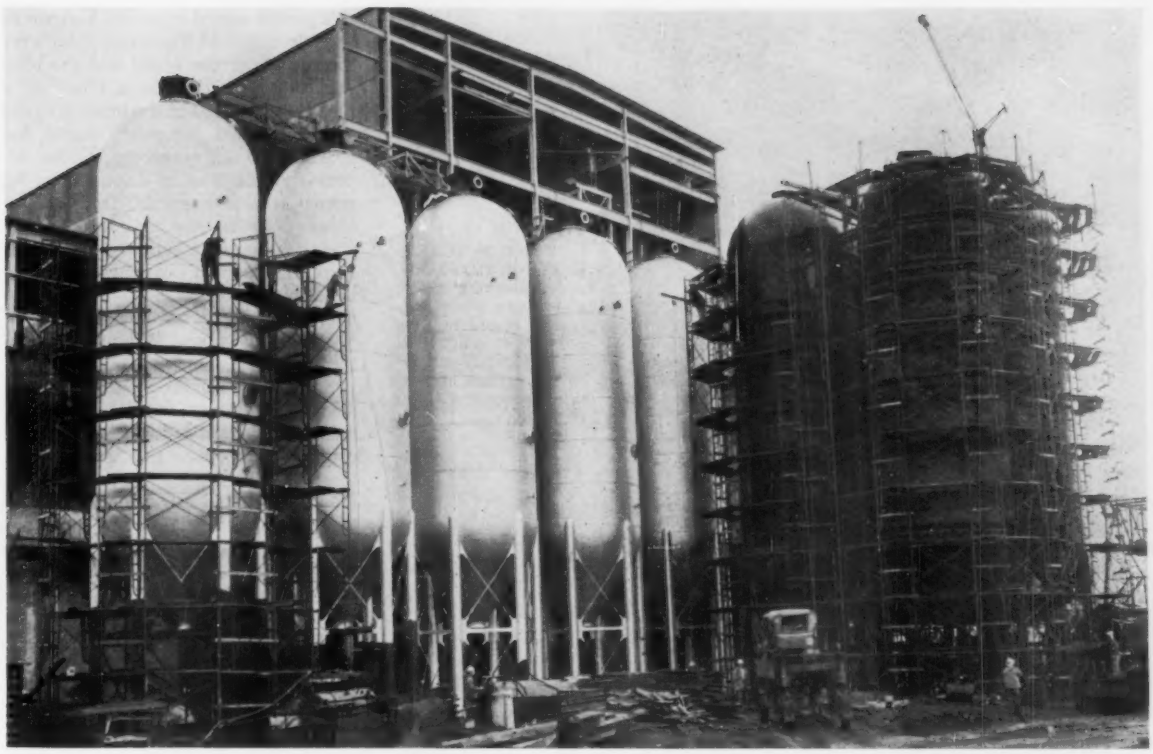
MgO CYCLE AND SIMILARITY TO KETCHIKAN . . . The power and recovery group is generally similar to that found at Ketchikan Pulp's Ward Cove, Alaska, plant (described in PULP & PAPER, Oct. 1954 issue). C. C. Moore & Co. is prime contractor for the design and installation of all equipment in this group, including mechanical and electrical component equipment within the group, with L. Boudreau as project engineer. A unique feature of the MgO system is that digesters are set directly over dump chests, and are dumped by gravity with no pressure.

There are two Babcock & Wilcox red liquor recovery units and power boilers rated at 160,000 lbs. of steam per hour. Electricity is produced in two General Electric turbine-generators of 9375 kva each. Initial operating pressure of the boiler is 850 psig and temperature 825° F.

The Conkey type evaporators for MgO system are built by Chicago Bridge & Iron Co.

The major difference between Cosmopolis and Ketchikan is that the Cosmopolis absorption system has one set of cooling and absorption towers for each of the two recovery furnaces, whereas Ketchikan was built so that one set of towers served two furnaces. Each set of towers terminates with a wet Cottrell precipitator for removal of SO_3 gas to eliminate air pollution.

The B&W power boilers will be able to burn hogged fuel or oil.



FOR A FEW WEEKS—A DRAMATIC PICTURE OF DIGESTERS . . . Housing is going up around the light-colored field-fabricated digesters—five of seven are in sight—and the 60-ft. high accumulators, built by Chicago Bridge & Iron Co. for new Weyerhaeuser mill. Digesters have Stebbins acid-proof linings. Digesters and accumulators were stress-relieved at minimum temperature of 1,100° F. for two hours, after being insulated externally. Framework for one of pulping structures was hit by lightning and high winds last spring and had to be rebuilt.

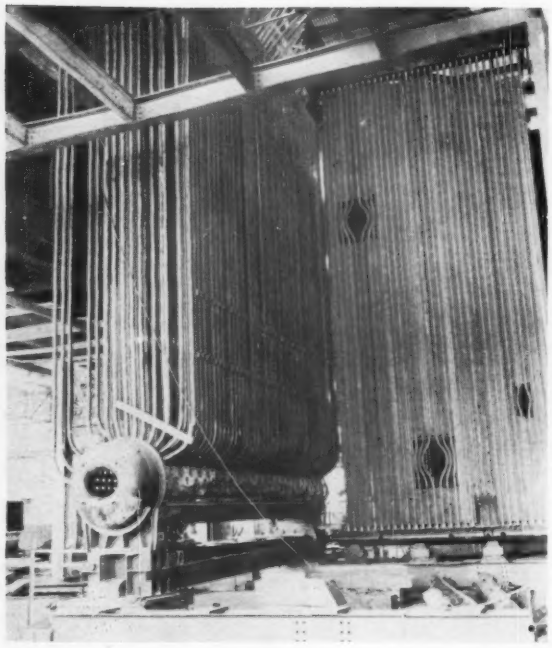
SPECIAL FEATURES OF DIGESTER FABRICATION . . . Four Chicago Bridge & Iron Co. accumulators are 17 ft. in diameter and 60 ft. high, with a capacity of 1,290 cu. ft. They were made of 1¾ in. steel plate. The seven digesters also built by Chicago Bridge are 17 ft. in diameter with a 35-ft. 2-in. shell height and each has a capacity of 10,765 cu. ft., all field-fabricated and field stress-relieved.

The weather conditions at Cosmopolis were abnormal with rainfall averaging ⅛ in. per day during the erection of the structures. To eliminate loss of time due to incessant rain a unique construction building was made. This building was on wheels which rolled on rails so that the structure could be moved on and off of ground assemblies to facilitate the handling of the material by cranes. All cone assemblies, shell rings and heads were assembled in this building so that only the circumferential welds were made in the air.

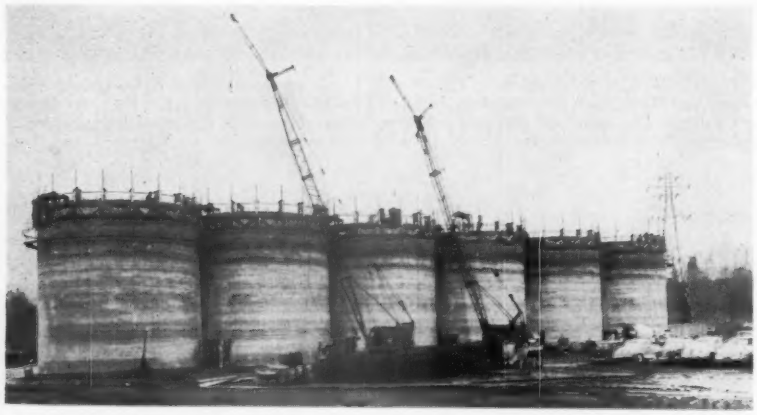
With a specially designed automatic girth welder, the circumferential joints were welded inside and outside simultaneously. This machine was covered with a rainproof hood so that its operation was not interrupted by weather.

The welds were checked by random X-Ray examination. Iron powder low hydrogen electrodes provided first class welds on these vessels. After the vessels had been checked radiographically, the digesters and accumulators were insulated externally and stress relieved at a minimum temperature of 1,100° F for 2 hours. The stress relieving was accomplished with a specially designed oil burner which resulted in a high degree of uniformity during the soaking period. The difference between the hottest and coldest points on any of the vessels during

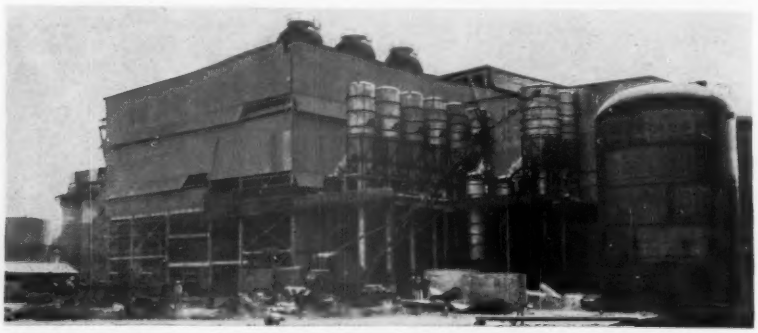
MILL BIG—TIME SHORT . . . Engineers assigned to construction at Cosmopolis pictured by PULP & PAPER as DON WOODEN (standing) pointed out one of newly completed components on blueprint of Weyerhaeuser's new 400-ton sulfite mill. Others left to right are: PETE LANDRY, KARL SMITH, who acts as liaison between mill construction and other WTCo mills, and HAROLD SEMPLE. This biggest WTCo project ever is going up in very short time. Missing from picture is MERRILL ROBISON, Project Engineer.



VIEW OF MgO RECOVERY BOILER—BEFORE HOUSING. . . . Showing boiler and water walls partially complete for Babcock & Wilcox red liquor furnace and recovery system at new Weyerhaeuser 400-ton pulp mill.



IMPOSING SIGHT ON COSMOPOLIS LANDSCAPE ARE THESE CHIP SILOS . . . Each silo stands 80 ft. high and measures 44 ft. in diameter. General contracting of new mill job is being handled by L. H. Hoffman of Portland, Ore., with J. H. Beaver in charge.



UNUSUAL SIGHT . . . EVAPORATORS FOR MgO SYSTEM . . . These Conkey type evaporators for recovery of red liquor are made of stainless steel by Chicago Bridge & Iron Co. They will play an important role in the sulfite MgO recovery system for new Weyerhaeuser mill. They are located here in what is described as the Recovery Group of installations. Compare size to men on ground.

this period varied from 50° F down to as little at 10° F. Thermocouples were located about the vessel and the temperatures recorded on a chart as a permanent record of the heating cycle.

The thermal expansion during the soaking period amounted to an increase in diameter of 2 in. and an increase in height of 7 in. To allow the columns to contract and retract, special column connections and struts were designed to compensate for the heating and cooling of the vessels. The entire heating cycle, including cooling, averaged about 12 hours per vessel.

Stebbins Engineering provided acid-proof linings for the digesters, and also similar ceramic linings and ceramic grids in the two steel cooling towers, acid fortification towers, acid fillers and 4 acid accumulators.

Rayonier, with its sulfite pulp and paper mill in Hoquiam, some five miles west, is the only pulp plant in the vicinity. These two mills and Coos Bay Pulp Corp. plant at Empire, Ore., are the only ones on the U.S. Pacific Coast that actually are located on or very nearly on the ocean itself. Other mills are located farther inland on bays, inlets or sounds.

CONSTRUCTION ENGINEERS . . . Merrill Robison of WTCo Pulp Division construction engineering staff is project engineer. This project was started under the direction of Gerald F. Alcorn, who died unexpectedly early last year. Group engineers are Donald K. Wooden and Pete Landry, both graduates of Oregon State College, whose backgrounds are structural and mechanical, respectively, and Harold Semple, Iowa State alumnus (architectural).

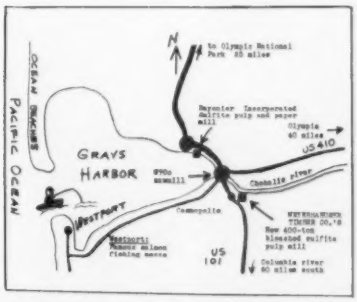
Messrs. Robison, Wooden and Semple were all on Mr. Alcorn's staff during construction of the new WTCo kraft mill at Everett, Wash., which was started up in 1953.

Other key men in the building picture are Dan O'Shea, engineer for water supply and effluent lines, Joe Dixon, in charge of engineering on the wood room; Burnell Goodness, electrical engineer; and Karl Smith from Longview, liaison man between the job and other company operations.

Howard W. Morgan, vice president in charge of the Pulp Division, and Ray E. Baker, manager of manufacturing, both located at Tacoma headquarters of the company, are top management men overseeing the venture.

L. H. Hoffman, Portland, Ore., is general contractor for the job. J. H. Beaver is project manager.

PRODUCTION MEN . . . Key men in the production picture moving to



MAP shows location of Weyerhaeuser's new 400-ton sulfite mill at Cosmopolis, Wash.

Cosmopolis from various other WTCo branches are headed by J. C. Brown, now assistant manager at Longview, who will become manager. Other personnel shifts include: Herman Jorgensen (currently shift foreman, Longview sulfite), pulp mill supt.; Wayne Schukneet (asst. power supt., Longview) supt. of recovery and power; Curtis Walseth (group leader, Longview research department), technical director; J. G. Hale (office manager and purchasing agent, Clemons Tree Farm), office manager; Dale Wilson (asst. personnel manager, pulp, Longview), personnel manager; and Gerald Hough (kraft shift foreman, Longview), chip plant supt.

The mill will be very similar in design and construction to the Weyerhaeuser Everett kraft mill, and many pieces of equipment will be corresponding.

OTHER MAJOR COMPONENTS OF THE MILL . . . A major unit is the 156-in. Rice Barton Fourdrinier and Minton vacuum dryer. Other items include the following:

Three heavy red liquor tanks constructed of Claymont Steel type 317 stainless clad have been installed by Hydraulic Supply Co. of Seattle. They are each 15 by 40 ft. in size with full hemisphere tops.

Fifteen Cowan screens for bleached and unbleached pulp, believed to be the first such installation for sulfite in the West to be used for all the pulp screening.

Chemical Linings furnished tile linings for the bleach plant vessels, stock tanks and unbleached decker vats in the pulping group, for bleach washers and for bleached decker vats in the machine room, plus the wire, couch, vacuum and barometric pits in the machine room.

Bauer Centri-Cleaners, 3-in. diameter, of the 600 series will be used. Also Oliver deckers and Impco washers for unbleached and bleached pulp.

Northwest Filter Co. is installing the filter plant equipment. Lamb-Grays Harbor finishing equipment and Washington Iron Works baling presses are going in. General Electric is supplying motors and Westinghouse the switchgear.

There will be two major barking and chipping installations. For big logs, there is a "Bellingham-type" hydraulic barker built by Sumner Iron Works, which can take logs up to 43 ft. long. The larger sticks will be chipped in a giant Sumner 175-in. chipper powered by a 1750 hp General Electric motor. Small logs of 30 in. diameter and less will be routed into a Hansel ring barker and then into a Carthage 110 in. chipper. Esco is supplying manganese chain and various other wood room equipment.

Six concrete chip silos have been built, each one 80 ft. high and 44 ft. in diameter.

Dow Technicians Meet With Kalamazoo Paper Firms

More than 50 research, technical and sales personnel of Dow Chemical Co. held an unusual meeting with several paper companies in the Kalamazoo, Mich., area Sept. 11-12. Technical discussions and mill tours were made at Sutherland Paper Co., KVP Co. and Allied Paper Mills.

A dinner keynote speaker was Dr. John J. Grebe, Dow's director of nuclear research, who spoke on "The Effect of Atomic Fission on Power over the Next 20 Years."

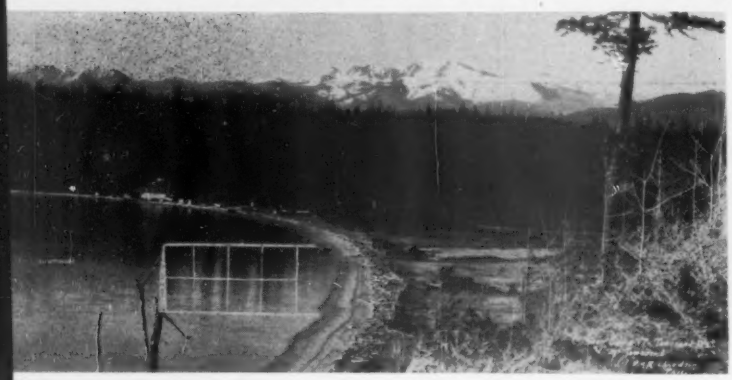
Purpose of the unique affair was to introduce the Dow personnel to the size, scope and problems of the paper industry. Dow is a large producer of latex and Dowicide products for pulp and paper making.

REPRESENTATIVE PULP AND PAPER COMPANIES SALES AND EARNINGS—FIRST HALF 1956

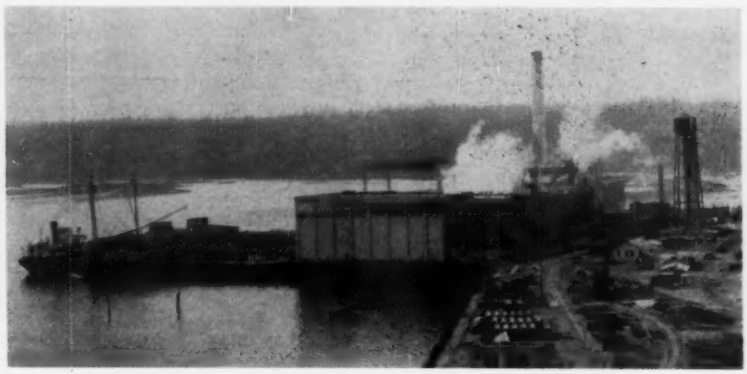
	Net Sales (000)	Income Bef. Taxes (000)	% of Sales	Net Income (000)	Net Per Share
MARKET PULP (Also Lumber, etc.):					
Brown Co. (fiscal yr. ends 11/30)	$ 30,598	$ 1,928	6%	$ 1,107	$0.43
Puget Sound Pulp & Timber	12,414	3,447	28	1,654	0.71
Rayonier, Inc.	72,593	n.a.	--	8,005	1.52
MacMillan & Bloedel Co. (fiscal yr. ends 9/30 - 2 & 3 Qus.)	93,479	17,318	19	9,177	1.73
Weyerhaeuser Timber Co.	162,938	41,768	26	25,868	1.04
NORTHERN INTEGRATED COS.:					
Abitibi Power & Paper Co.	65,527	15,854	24	7,991	1.85
Consol. Water Power & Paper	34,572	7,482	22	3,417	1.34
Diamond Match Co.	66,446	8,317	13	4,317	1.45
Eastern Corp.	13,791	1,612	12	824	2.24
Glatfelter, P. H. Co.	10,560	2,700	26	1,204	3.30
Great Northern Paper Co.	30,329	5,501	18	2,857	2.60
Hammermill Paper Co.	24,360	3,588	15	1,799	1.70
KVP Co., The (fiscal yr. ends 9/30 - 2 & 3 Qus.)	28,355	3,879	14	1,958	2.38
Marathon Corp. (fiscal yr. ends 10/31 - 2 & 3 Qus.)	70,404	7,968	11	3,704	1.03
Oxford Paper Co.	31,130	4,735	15	2,245	2.62
Warren, S. D. Co.	32,742	5,442	17	2,613	2.66
INTEGRATED - NORTH AND SOUTH:					
Crown Zellerbach Corp.	223,504	43,682	20	24,973	1.76
International Paper Co.	435,214	89,921	21	43,305	3.92
Mead Co.	75,999	12,275	16	5,689	1.69
Riegel Paper Co.	29,083	3,789	13	1,799	1.54
Scott Paper Co.	133,441	23,162	17	11,412	1.42
West Virginia Pulp & Paper Co.	95,555	17,929	19	9,129	1.79
SOUTHERN PAPER AND BOARD COS:					
Southland Paper Mills, Inc.	10,734	3,910	36	1,877	4.17
Union Bag & Paper Co.	68,235	18,365	27	8,782	1.65
PAPERBOARD COS. - NORTH AND SOUTH:					
Container Corp. of America	138,428	20,348	15	9,732	3.64
Gair, Robert Co.	86,306	n.a.	--	5,365	1.62
National Container Corp.	55,086	10,871	20	4,860	1.23
NON-INTEGRATED PAPER COS:					
American Writing Paper Co.	8,485	806	10	387	1.43
Sutherland Paper	33,745	4,434	13	2,128	2.00
CONVERTER:					
Dennison Mfg. Co.	17,807	2,341	13	1,132	1.85

The sales and earnings for the first half of 1956 were especially prepared for PULP & PAPER by Cyrus J. Lawrence & Sons, members New York Stock Exchange, from statistical services and published reports. While the figures are believed to be correct, no guaranty is given as to their accuracy.

This Crown Zellerbach kraft mill at Port Townsend, Wash., now makes 450 tons per day . . .



In 1926, only white lines showed where mill would rise



In 1928, soon after completion, mill looked like this

SPECIAL PULP & PAPER FIELD REPORT

Chips Make Million Dollar Mountain

How Port Townsend saves vast forest . . . unloads, stores and reclaims chips . . . other improvements at big mill

By ALBERT W. WILSON

• Two ferry boats and an evergreen wilderness highway finally bring you to the Port Townsend, Wash., kraft pulp and paper mill, if you start from Seattle. You might have to dodge a deer on the road, and you see some spectacular panoramas of salt seaways and snow-capped mountains on the way, but when you roll down the hill to the mill at tidewater, you see a sight which is not duplicated anywhere else in the pulp and paper world.

Here to greet you is a million-dollar man-made mountain of wood chips.

PICTURE NOTES

Here is identification for points of interest in airview of Port Townsend mill, above: At lower left—Bag plant. Along waterside—Two-machine Paper Mill, with finishing and shipping extending out on dock. New office building—facing parked cars. At right—Pulp Mill, Recovery Plant. At extreme right—Port Townsend's own Sawmill, which is only used a couple days a month now because of huge supply of imported chips. At far end of 120-ft. high Pulp Mill building, chips are being pneumatically unloaded from scows. At this end of building, note two long tubes leading down to hopper. This is where trucks are loaded with chips for outside storage on the million dollar chip "mountain." Chips also are stored inside this building.

OUR COVER PICTURE—the above description also applies to view on our cover. In the cover picture you see six big chip scows anchored out in the bay, two fully loaded and the others empty.

There has never been anything like it, anywhere, but that's not saying there won't be in years to come as more and more mills are turning to use of sawmill chips in the Far West and in the South.

The Crown Zellerbach mill at Port Townsend, however, is one outstanding example of a mill which is now supported virtually 100% by wood that formerly went up in smoke in the big sawmill burners, because there was no economic use for it. You used to see these burners all over the West, big steel cages, clouds of wood smoke rising high from them. They are getting mighty scarce.

When a PULP & PAPER editor visited Port Townsend recently, chips were piled up 60 ft. high on a vast flat area back of the mill, with dump trucks chugging up and down "roads" they made with their own wheels in the chip "mountains."

COLORFUL HISTORY . . . Port Townsend, incidentally, is one of the industry's colorful mill towns.

A century ago it was one of the few important seaports of the Pacific Coast. Lurid tales are told of stirring nights in waterfront bars, the shanghai-ing of wind-ship crews for long ocean voyages and other incidents along the "primrose path."

Sailing ships came all the way around the Horn from New England and the East Coast, from Europe and across the Pacific from the Orient with fabulous cargoes. Before the railroads had pushed to the Pacific Northwest, it was that area's only link with the outside world. Sin flourished at sea-level, but there were missionaries, too, and religion planted its banners on the palisades. Then the railroads reached Seattle and Tacoma, and Townsend faded, became almost a "ghost town." Its population decreased, the number of banks fell off from six to one. There were scars of history of mythical railroad extensions to Townsend that never materialized.

But its fortune took a sharp turn upward when the paper mill was built in 1927, and it has been thriving ever since. Colorful homes built by sea captains, some with upper-story "bridges" or lookouts, are homes today of pulp and paper makers. In 1953, the U. S. Army sounded taps over Townsend's historic Fort Worden. This would have been a staggering blow to the town 25 years before. But pulling out of all military personnel in 1953 only made room for more mill employes.

THE CHIP MOUNTAIN . . . Getting back to the chip "mountain," Resident Manager Leonard Ziel calculates it has been built up to about 80,000 units, and it is still a-building. That is equivalent to about 30,000,000 bd. ft. of cold-decked fir, hemlock and cedar. Or equal to about 80,000 cords.

There are enough chips in the "mountain" to keep the mill running for three months. Port Townsend is making 425 tons a day of kraft board, kraft wrapping and kraft bag papers, which is about 150 tons more than it was making ten years ago. The big speedup has been on No. 2, a 252-in. Fourdrinier. No. 1, a 120-in. cylinder machine now exclusively on linerboard, is running slower than it was on other grades. Port Townsend also converts more than 130 tons of kraft multiwall and grocery bags every day.

HUGE WOOD SAVINGS . . . . Crown Zellerbach officials have figured that Port Townsend is running actually 99.7% on imported chips from sawmill waste on an annual basis. In Ocean Falls, B.C., St. Helens, Ore. and Elk Falls, B.C., three other Crown Zellerbach kraft mills, at least 50% of the production in each mill is from sawmill chips. At Camas, Wash., more than 30% is made from this material. Obviously, a large proportion of the paper now being produced by Crown Zellerbach Corp. is a product of wood left-overs, slabs, edgings, trim, etc., that used to be burned. Thus, for all this production, not a single tree has to be cut that wasn't already felled for some other purpose.

Actually, most of the time Port Townsend is running 100% on chips from some 26 sawmills in U. S. and Canada. The paper mill's own sawmill is operated only a couple of days a month. This is to take care of a limited amount of farmer wood brought in from this area of the Olympic Peninsula. This is "small wood" in the Far West—about 6 in. diameter on the average. It comes in 8-ft. lengths and about 50 pieces make up a cord. One advantage is that Port Townsend keeps its hand in the business for wood from local farmers.

In past years the mill ran its sawmill part-time on big wood, too, especially around July 4th when it would run low on chips from outside sawmills, since most sawmills take a two-week holiday shutdown. This situation, however, hasn't arisen for three years.

WHAT ABOUT QUALITY OF OUTDOOR-STORED CHIPS? . . . How long can they be stored that way? At Port Townsend, and presumably in other Northern climes, there is no noticeable deterioration in at least 1½ years. The mill works off the pile where chips have been stored for the longest time.

The fir, hemlock and cedar chips are suitable for outside storage. Temperatures do not rise in the pile, no matter how high chips are stacked.

Perhaps one of the most important factors in use of sawmill chips at Townsend is that wood quality compares favorably with chips from logs. For many years on the Pacific Coast prevailing practice had been to send first-class logs to sawmills and divert the second-class and cull logs to pulp mills. Often the decision might be made right at the headrig of a sawmill operating in conjunction with the pulp mill.

Now that Port Townsend is almost wholly supplied by sawlog leftovers, it is getting wood from prime logs. It

26 SAWMILLS BUILD WORLD'S BIGGEST CHIP MOUNTAIN.—Actually there are five mounds of chips here—alongside the Port Townsend, Wash., CZ mill. To get an idea of size of this million dollar "mountain" of chips, compare the mounds with the three railroad cars which are parked on tracks just this side of the chip mound nearest to the beach. Or with the neat stacks of pulpwood just below the biggest chip mound. See our **COVER PICTURE** for relation of these chip piles to the mill.

is also getting more sapwood. Both factors are important in upgrading chip quality. Some of the chips come from plywood or veneer plants, made from plywood cores.

ONE PROBLEM PORT TOWNSEND FACED . . . This was how to transport chips to and from the mammoth chip pile. This problem was "batted around" many times by Mr. Ziel, Plant Engineer Harry E. Bukowsky (just retired and going into the consulting business) and others of the staff. They talked about using a bulldozer. Also, setting up a chain conveyor system. Another idea was to use a pneumatic handling system, blowing chips to and from the pile in a tube, which is the method used here successfully for unloading chip barges. But, finally, it was agreed to contract the job out to a trucking firm, with dump trucks. This, it was decided, would be the most efficient and most economical method, and how it works is described further along in this story.

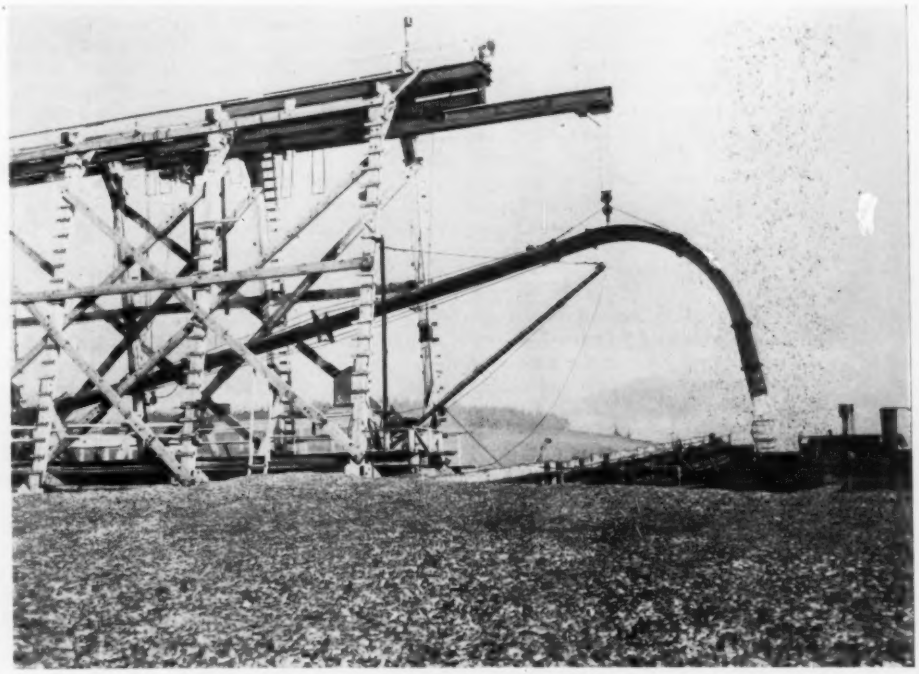
TREND TO USING SAWMILL CHIPS . . . This trend is heralded as new—and so it is throughout most of the Far West and South. But strange as it may seem, Port Townsend was built for this very purpose nearly 30 years ago. The mill was constructed in 1927 without a sawmill or a wood plant, even though hemlock, fir and spruce grew thickly down to the water's edge all around it. It was calculated that nearby sawmills would provide an adequate chip supply. In those days these included the historic sawmill at Port Gamble, in Kitsap County, which for many years had been known as "the biggest sawmill in the world"; and others at nearby Port Ludlow; across Admiralty Inlet and Puget Sound at Everett, Wash.; and in British Columbia.

A simple derrick and bucket elevator were used to unload chip scows and for a while the master plan worked smoothly, but the mill builders hadn't counted on a depression. In 1933 the chip supply dwindled. The Port Townsend chip plant was built to augment outside chip supplies. It was going strong when Port Townsend made industry history in 1941 by starting one of the first whole-log hydraulic barking machines, designed by Plant Engineer Harry Bukowsky.

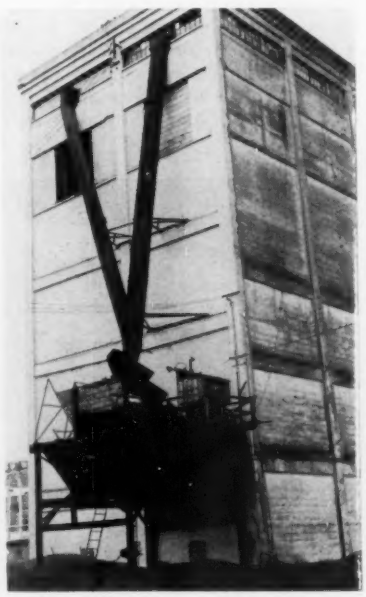
For a long time chips for Port Townsend came mainly from Canada. Now more American sawmills have discovered a good thing in barking and chipping their leftovers and this source is increasing.

HOW BARGES ARE UNLOADED . . . The big chip barges are towed into Port Townsend's harbor around

Pictorial "Flow" of Chips in Port Townsend's Unusual System



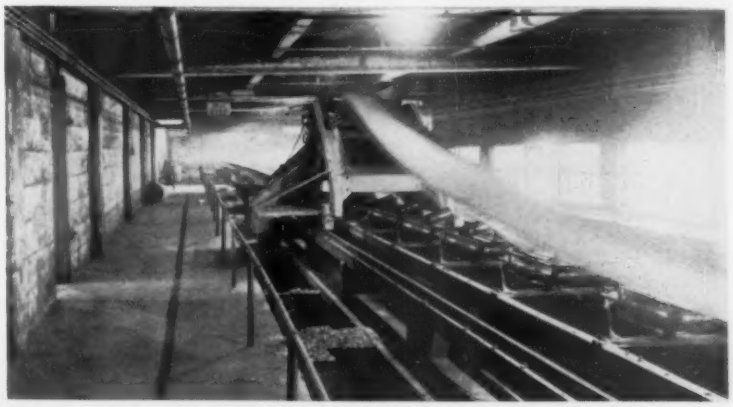
UNLOADING CHIPS FROM AN OLD SAILING VESSEL HULK . . . it is just possible that in proud sailing days, this hulk was part of ship calling at Port Townsend—a famous world sailship port many years ago. There are 1100 units in this hulk, pneumatically blown through Federal Flexible steel hose to top of 120-ft. building.



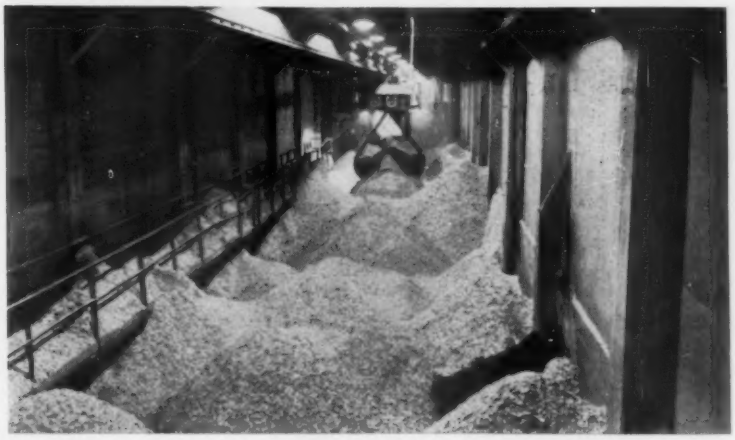
TRUCKS LOADED FOR OUTSIDE STORAGE. After journey across top of 120-ft. high building, here is two compartment hopper. While one truck is loading, another can move into position, ready for immediate loading.

EMPTY TRUCK ROLLS BACK FOR ANOTHER LOAD. Four-wheel drive trucks make their own roads to top of chip piles—smoother than a lot of public highways.

THREE VIEWS SHOWING UNLOADING. Note workmen alongside vacuum tube. In third picture is shown how tube leads to top of 120-ft. high building. Chips can be stored here or carried across building to load trucks for outside storage.



BELT ACROSS TOP OF 600-FT. LONG BUILDING. Chips on this 36-in. Pioneer Rubber belt on Link Belt conveyor can be unloaded for storage inside 120-ft. high building, or carried all the way for outside storage.



HOW CHIPS ARE STORED INSIDE. There are no conventional chip silos at Port Townsend. Chips are stored inside same building with digesters. P & H monorail crane and clamshell bucket is in background, hoisting chips out of storage to digesters.

RECLAIMING CHIPS. Truck is being loaded by Bucyrus-Erie crane with special oversize 100-cu.-ft. bucket. These chips go back to mill from outside storage. Trucks carry 2¼ units.

60-INCH BELT. Chips from outside storage are carried on Link-Belt conveyor with 60-in. Pioneer Rubber belt to Sumner shaker screens, en route to digesters.

Point Wilson if from Canada or the north side of the Olympic Peninsula; or up Puget Sound and Admiralty Inlet and inside the shelter of Marrowstone Island if from Washington sawmills or inland Sound waters. Often four barges will be unloading and up to 15 may be anchored in the tidal stream, waiting to be moved in.

A vacuum conveyor system with a long metal tube to suck chips from the barges was first devised for the unloading procedure by Fuller Airveyor Co. in 1935. There are now three vacuum unloading units of this type used at the Port Townsend dockside. The chips are drawn to the top of a 120-ft. building used for both chip and hogged fuel storage and digester housing.

Federal Flexible Hose Co. of Buffalo, N. Y., made a 10-in.-diameter flexible galvanized and crimped-type steel hose tubing which is used in this vacuum system.

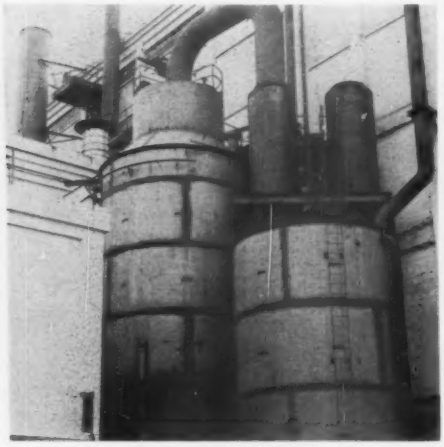
The familiar pulp mill chip silos are not seen at Port Townsend. Instead, here is a 120-ft. concrete and steel building, which extends 600 ft. back from the waterfront and is 44 ft. wide. Chips are simply stored in one of two big compartments formed by building walls at either end of the structure except for those carried out to the big chip "mountain." In the middle of the big building, about 150 ft. are occupied by the mill's nine vertical digesters.

A Pioneer Rubber belt 30 in. wide, on a Link-Belt conveying structure, runs along the top of the building and unloads chips into either of the two storage areas, or carries chips the full length of the building and dumps them off into a loading hopper for trucks that carry the chips to the mammoth; outside storage area—the chip "mountain."

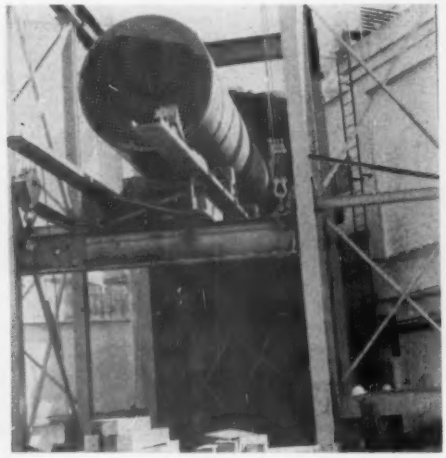
The hopper has two compartments and two chutes. Thus, while one truck is loading, another can move into position under the other compartment, ready for immediate loading as the first truck moves out.

Each truck will take 2¼ units of chips per trip. These are 4-wheel-drive Army surplus trucks. A local contractor has this job and uses two or three trucks. Also the trucks are used to bring chips back to the mill from the towering piles.

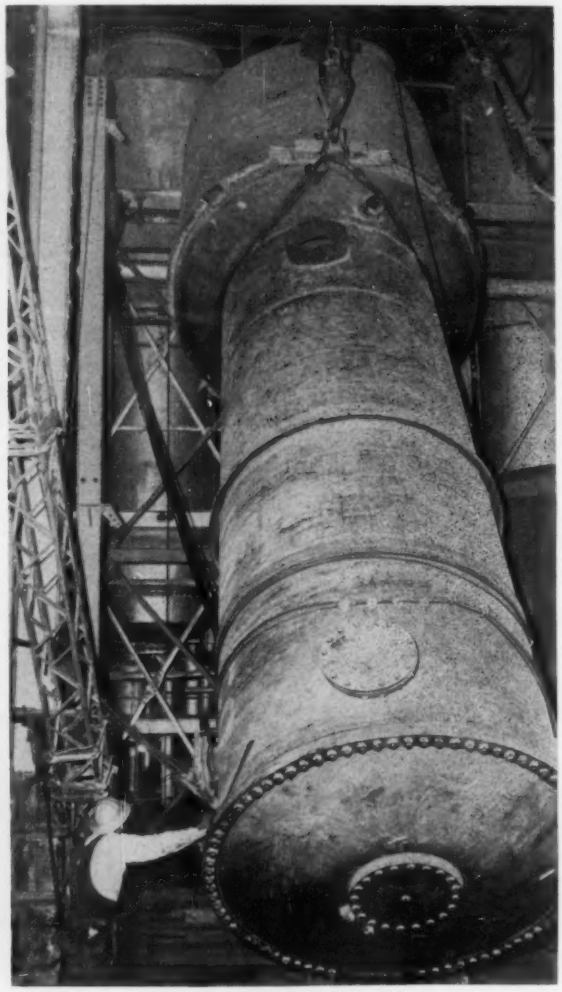
HOW CHIPS ARE RECLAIMED . . . A Bucyrus Erie crane with a 100-cu.-ft. bucket, a special plant-made one because it is unusually large, loads the trucks from the "chip mountains." Thus, trucks are quickly loaded with 2¼ units of chips, and these are



HEAT RECOVERY INSTALLATION . . . Steam passing through blow tank's gooseneck passes into condenser (at right). Condensed steam and water fall into large storage tank, also to right of blow tank.



GOES THROUGH HOLE IN WALL . . . Tube section of 6th effect of new Chicago Bridge evaporator, entering building through 20 ft. hole knocked in wall. Once inside it had to be lowered 20 ft. for installation. Weight: 72,000 lbs.



ANOTHER WENT THROUGH HOLE PUNCHED IN WALL . . . Tricky installation of Port Townsend's new 6-body, 6th-effect Chicago Bridge & Iron 300-ton capacity evaporator is described in this article. Here is the 5th effect—compare size with man below. Weight: 96,000 lbs. The 6th effect was only one that was not brought into building in one piece.

brought to a station where the load is dumped onto a three-strand Electric Steel Foundry Co. manganese conveyor. This carries the chips directly inside the combined storage and digester building. They are discharged onto a 60-in.-wide Pioneer Rubber belt conveyor on a Link-Belt conveyor and this transports them through Sumner Iron Works shaker chip screens en route to digesters.

As for the chips held in storage in the storage-pulp mill building, when used, they are hoisted from their 100-ft.-deep wells by P & H (Harnischfeger) monorail crane and clam-shell buckets and loaded into the digesters.

ANOTHER METHOD . . . Another mill not far from Port Townsend is building its own imported sawmill chip "mountain," but it is a modest one compared to Townsend's. The latter, a sulfite mill, blows the chips through an underground pipe passage from the chip pile to the pulp mill. In this case a Conveyair system is used and a Clark Michigan loader tractor, sold by Totem Equipment Co., Seattle, with a blade, zips its way over and around the pile and pushes chips into the spout of the underground pneumatic conveyor.

Port Townsend has one of the largest chippers in the world—a 175-in. disk, built by Sumner, but it doesn't get much use these days. This chipper will reduce a 24-ft-long, 40 in. diam. log to ⅝ in. chips in 17 seconds. It was installed simultaneously with the hydraulic barker.

DIGESTERS—HOW CORROSION IS COMBATTED . . . The digesters at Port Townsend have had an interesting history. This is of considerable significance in view of the industry's interesting life records of graft mill digesters, owing to the mysterious high corrosion rates in some mills.

One digester at a time, the Port Townsend mill has replaced old ones with new, with special cladding or lining. This has been going on for some years. Eight of the nine now are A. O. Smith digesters. Six have Inconel lining throughout. Two have a special Smithweld stainless steel lining. The ninth digester is by Chicago Bridge & Iron Co. and it is Inconel "Horton clad." By this process the cladding is heated and fused to the surface of the parent plate.

While some of the linings or claddings have not been in use for a long period, all of them are holding up well, according to Port Townsend engineers.

NEW EVAPORATOR . . . OTHER ADDITIONS . . . Among other recent additions and improvements

INSPECTING BELOIT WINDER . . . This equipment went in operation in 1955 at Port Townsend. J. K. DAVIS, Paper Mill Supt. (left), and F. LEONARD ZIEL, Resident Manager (man in the middle), are talking it over.

IN PORT TOWNSEND MULTIWALL BAG FACTORY . . . Here is valver operation. In background, sleeves are being inserted.

ALSO IN MULTIWALL BAG FACTORY . . . View of printing press, with operator inspecting.

made at the Townsend kraft mill:

A new 6-body, 6-effect evaporator, replacing existing facilities. The new one, built by Chicago Bridge & Iron Co., has capacity for 300 tons. It was somewhat of an engineering feat to get the evaporator into the mill. A 20-ft. hole was punched through the second floor outside wall of the recovery plant and the evaporator parts were hoisted through it. Each body weighs 45 tons and it was a tricky job getting them through and into place.

A new Bird Machine saveall will recover fibers from the No. 2 machine, a Bagley & Sewall and Beloit Fourdrinier, which makes kraft paper grades.

A new Pope-type reel by Beloit will speed operations at the dry end of No. 2. This machine has a 252-in. wire and trims 237 in.

Ten years ago, No. 2 was making only 187 tons a day, but since then, with additional dryers and other improvements, this machine is now averaging 1500 fpm, making about 300 tons a day. No. 2 started in May 1929.

No. 1 is a Black-Clawson cylinder machine, 120 in. wide and trimming 115 in. It was started in Oct. 1928. On the grades it was running ten years ago, it had more capacity. But now it runs steadily on liner board and running speed is somewhat slower. Production averages 125 tons per day. Thus, Port Townsend is running a total of around 425 tons per day.

Another new installation at Townsend is its heat recovery system. More than 40% of heat carried or blown from digesters is now being recovered. There are 70 cooks a day at Townsend, and some 25,000 lbs. of steam are used per cook, so this is a substantial saving, reducing mill fuel requirements considerably. Fuel oil and some hogged fuel (scarce since former waste now goes into chips) are the fuels used.

Steam passing through the blow tank's familiar topside gooseneck passes into a large steel condenser and then falls into a steel storage tank. The hot water is reused for washing.

Another Port Townsend change is replacing boxcar by hopper car delivery of salt cake. The hopper cars are efficiently and quickly unloaded with a Fuller Airveyor pneumatic system. Prior to getting salt cake in bulk it came to the mill in bags from Germany in ships, because at that time the American product was considered too fine. Now the mill uses Trona and West End salt cake from the Pacific Coast.

There are four wet machines, and these come in handy when Townsend is called upon to supply kraft pulp for other Crown Zellerbach mills and for sale.

LEADERS IN PORT TOWNSEND IMPROVEMENTS . . . HARRY E. BUKOWSKY (left), a few days before official retirement as Port Townsend Resident Engineer, and F. LEONARD ZIEL (right), Resident Manager for past ten years, conferring on improvements. Mr. Bukowsky, whose long cigaret holder is his "trademark," continues as Consultant to CZ (as well as doing other consulting work).

The "1927 Men" of Port Townsend Mill

• A story of the Port Townsend, Wash., kraft mill would not be complete without mention of the large proportion of personnel which has been on the job since the mill was built in 1927.

Among top supervisory brackets alone, there are 18 men who have been there since construction. Many others come close to this record.

If you want reasons, the esprit de corps in the mill and the quality of teamwork under leadership of Resident Manager F. Leonard "Leo" Ziel are two you can't overlook. The lessons Mr. Ziel learned back in the mid '20s when he was a star halfback and sure-footed dropkicker for winning University of Washington football teams, he carried with him to Port Townsend. In fact, he is the youngest of the "1927 men" on the mill staff, having gone to work right out of college.

He became assistant manager in 1938 and manager in 1947.

Good living and the outdoor life, typical of many mill towns, are probably other reasons for keeping the staff at Port Townsend satisfied. Most of them are ardent fishermen, many have their own power boats, and get a big kick out of slipping out of the town's boat haven after work and having a fighting salmon on the line in time to take it home for supper. Many king salmon are caught within the bay where the mill stands. On the beach within 100 yards of the mill, healthy giant Dungeness crabs are netted.

The green mountains of the Olympic Peninsula, the wild game of all kinds, the rhododendron festival and the thrill of participating in the rejuvenation of a town which was in its doldrums—a sailing ship seaport which modern civilization was passing by, and which came vigorously to life with its paper industry—these are other reasons that make workers here content.

There is a pleasantly freakish condition of weather, too. Mountains and

LIGHT MOMENT AT A STAFF MEETING . . . At Port Townsend (l to r): HARRY DEITS, new Acting Plant Engineer; F. LEONARD ZIEL, Resident Mgr.; R. R. MARRIOTT, Technical Supervisor; F. W. (FRAN) FLYNN, when he was Asst. Mgr. (recently promoted to Mgr. at Port Angeles); GERALD A. HUNT, Office Manager; F. W. ANDERSON, recently transferred to Camas as Men's Personnel Supervisor; NEAL FRANKLIN, Asst. Personnel and Safety Supervisor; and E. F. (TED) DRAKE, Asst. Resident Engineer.

channels apparently conspire to keep the frequent rains of nearby areas away from Townsend—which has an unusual record for dryness and sunshine.

No doubt another factor for good employe conditions in this mill is the enthusiastic and successful campaigning which the mill has done for several years to establish one of the industry's finest safety records. For several years it has been at the top or near the top in safety competition with 42 mills on the Pacific Coast. It has won the Governor's Trophy for leading some 21 mills in Washington state. And, as this story went to press, it was building another enviable safety record of over 462 days without a lost-time accident.

NEW ACTING RESIDENT ENGINEER . . . HARRY DEITS, promoted to Acting Resident Engineer, in a typical pose, as he has had charge of drafting room. Also headed paper mill engineering and developments.

NEW ASST. RESIDENT MANAGER . . . JOHN M. MILLER moves to Port Townsend as new Asst. Resident Mgr. He headed Maintenance and Engineering at Camas Mill, has been with CZ ten years.

OTHER KEY STAFF . . . Port Townsend has a newly appointed assistant resident manager, Jack Miller, who is moving from the Crown Zellerbach Camas mill. Beverly Smith, a longtime Townsend veteran asst. manager, is now manager at Lebanon, Ore. His successor as asst. manager, Francis W. Flynn, has moved to nearby Port Angeles to be manager of the newsprint mill there.

As reported in the October issue of P&P, Harry E. Bukowsky, who had been plant engineer for 24 years at Townsend, has retired and he is entering business as a consulting engineer in either Seattle or Portland, Ore.

Harry Deits, who joined CZ at Port Townsend 10 years ago, coming from Alcoa, is acting plant engineer filling Mr. Bukowsky's shoes. Mr. Deits had been in charge of the drafting room and mechanical engineering and specially of recent paper mill engineering developments.

Bob Allan is asst. master mechanic and has been with CZ 11 yrs.

E. F. (Ted) Drake is assistant plant engineer in charge of electrical engineering. He is also president of the Cape George Salmon Fishing Club, which has 170 members, mostly mill employes. By far most of the owners of the 56 summer homes on Beckett Point beach below Cape George are mill men, and members of the club.

Mr. Drake is a "1927" man. And here are others who have been with the mill since that construction year:

Gerald Hunt, office manager; Jack Davis, paper mill supt. (he was tour boss until eight months ago when he succeeded J. H. Quigley who went to Antioch, Calif., as supt. of that new mill); Guy V. Emerson, pulp mill supt.; Bill Bishop, yard supt; Elihu Smith, steam and power supt.; Ivan Shaffer, master mechanic; J. L. Van Valkenburg, electrical supervisor; Harley Knott, pipe foreman; and James Campbell, machine shop foreman.

LEADING FIGURES AT TOWNSEND TRADE NOTES . . . IVAN W. SHAFFER (left), Master Mechanic, talks over supply problem with LARRY M. HARNEY (right), Director of Mill Purchases.

DISCUSS CHART ON NEW CONTROLLER . . . K. M. (KENNY) SHOLD, Asst. Pulp Mill Supt. (left), and GUY V. EMERSON (right), veteran Pulp Mill Supt., discussing instrument chart on new Minneapolis Honeywell controller.

TALKING POWER DISTRIBUTION . . . This is WHITEY DAVIS (left), Watch Engineer in Steam Plant, discussing distribution at controls with ELIHU SMITH (right), long time veteran Steam and Power Supt. at this mill.

All four of the paper mill tour foremen are "1927 veterans": Claude Maulding, Ed Butler, Ed Moar and Walter Robinson. There is almost a perfect score in the pulp mill, too. Three of them started in 1927: Les Savage, Ed Franklin and Bobby Nott. The fourth joined just a year later: Herb Swanson.

The modern multiwall bag plant, started in 1948, is superintended by Urban Grandaw. His assistant supt., Bert Steinberg, moved to Antioch to assume increased responsibilities there. CZ employs 200 people in the multiwall bag plant. It also has four carry bag machines, on which 48 people are employed. In addition, there are 11 grocery bag machines which were installed in 1935, providing employment for 60 people.

Bob Marriott, who joined the com-

pany in 1933, is technical supervisor. Kenny Shold, from the laboratory, recently was promoted to the position of assistant to pulp mill supt.

Larry Harney, who joined the work force when the mill started, has been purchasing director for 15 years.

F. C. Brown is supt. in charge of the wood mill, chip derricks and tugs.

Carl R. Erickson is finishing, shipping and warehouse supt.

Bob Miller recently took over as personnel and safety supervisor. He was formerly an assistant at Townsend but lately has been assistant in Portland, Ore., to Barney Mullaney, head of college recruiting for the corporation and a former personnel and safety supervisor at Townsend. Mr. Miller succeeds William Anderson, who went to the Camas mill as men's personnel supervisor. Neal Franklin and William S. Hibberd are assistant personnel and safety supervisors.

The division has 43 retired associates, who frequently visit the mill. They also attend service pin award dinners and other mill functions.

OTHER KEY MEN AT TOWNSEND (l to r) . . . JACK K. DAVIS, Paper Mill Supt., URBAN GRANDAW, Bag Plant Supt., and CLAUDE MAULDING, one of four Paper Mill Tour Foremen, who all started in 1927 with building of mill.

How a Champion Mill Makes Safety Work

● A mill which in several past years has been a national leader in safety in this industry—which has ranked tops or near the top in the Far West—should have some ideas useful to other companies.

So, at Port Townsend, Wash., Division, Crown Zellerbach Corp., a PULP & PAPER visiting editor made some inquiries. He was told that areas that can be explored to stimulate a safety program are many and will vary according to the size of a plant and attitude of a plant's people.

At Port Townsend the employes really felt the full impact of a good record damaged by a fatal accident on the last day of 1954. So they started their 1955 Safety Program with a determination to reduce the occurrence of injuries in the plant with a seven-point program:

1. To expose more people to the program.
2. Keep people informed.
3. Use of the medium of safety meetings to bring in material affecting job attitudes.
4. Get the individuals to participate in conducting safety meetings.
5. Instigate a new system for plant inspections.
6. Follow-up promptly on safety items brought to the attention of the Safety Department.
7. Make close contact and follow-up on all reported injuries by supervisors and Safety Department.

HOW MEETINGS ARE HELD . . . A tight schedule of safety meetings was held during the year with an effort to get every person on the payroll into a meeting once each month. In these meetings they talked of major physical changes in the mill, specific safety problems, items of interest concerning home and highway safety. Many of these meetings were conducted by volunteers from the Department. Outside speakers on given subjects are very popular in safety meetings, also safety movies from other industries seem to be stimulating to the safety program. The participation of the mill manager and assistant manager added to the meetings and, needless to say, was inductive to a high morale throughout the plant.

LOCAL PAPER HELPS . . . The editor of the local Port Townsend newspaper is very cooperative in featuring interesting items concerning the mill safety program. Several departmental records and named crew members appear in these articles along with general plant-wide safety news.

The follow-up of an industrial injury with a personal interest is a matter considered vital. This follow-up includes consultation with the local doctors on all industrial injuries.

INSPECTIONS . . . Four-man inspection teams make bi-monthly inspection tours throughout the mill. These teams include all supervisors on a rotating basis. They inspect housekeeping, safety and specific problems. The named chairman on each team is responsible for scheduling the starting time for each tour. He is also responsible to verbally bring any items that need immediate action to the attention of the proper department head and the mill manager. A tour report is typed and distributed to all departments.

With the excellent cooperation and support of the supervisors, along with the individual support of each employe, Port Townsend made safety progress by reducing the mill frequency to 1.90 at the end of 1955. The efforts of its staff were rewarded by winning several safety awards: State of Washington Governor's Safety Trophy, Forest Products Safety Conference Plaque for the Pulp and Paper Mills, and the National Safety Council Award of Merit and Achievement.

PERSONNEL OFFICE AT TOWNSEND IS "ON THE JOB" . . . The record is very good for this office for years as indicated by men who have advanced to higher posts in Crown Z. (L to r) BURT GOTTWOLD, of Accounting Office (back to camera); A. NEAL FRANKLIN, Asst. Personnel and Safety Supervisor; WILLIAM S. HIBBERD, Asst. Personnel Supervisor, dictating to MARGARET MOSLEY, Personnel Secretary. Note Safety trophies on stand at left. Not in picture is new Personnel and Safety Supervisor, BOB MILLER, from Portland, Ore., college recruiting office.

Reception for Teachers

Each year the Port Townsend, Wash., mill holds a reception for new teachers entering the Port Townsend School System, at which time they have an opportunity to get acquainted with members of the mill staff and also with one another.

In connection with this there is a mill tour for them the day prior to the reception and follow-up at a later date with a visit to the school by members of the mill's supervisory staff.

This is a long standing custom in Port Townsend and Res. Mgr. Ziel feels that close cooperation and friendliness between the school system and the mill has been furthered by these receptions.

THEY TALKED AT N.Y.-CANADIAN SUPTS. MEETING (l to r): DOUGLAS W. AMBRIDGE, Pres. and Gen. Mgr., Abitibi Power & Paper Co., "Down with self-appointed saviors of the forest." MERLIN C. RACE, Safety Director, St. Regis Paper Co., "Down with accident frequency rates." NORMAN L. BERNARD, Supervisor of Personnel, International Paper Co., "Up with personnel tests."

PULP & PAPER SPECIAL REPORT ON N.Y.-CANADIAN SUPTS.

New Things Being Done by Abitibi

I.P. Director Discusses Job Testing

Safety Ideas by St. Regis Engineer

● "Every so often, during the past 50 years, some self-appointed savior of the forests scares the wits out of the public with statements which are fantastic . . . The public should be taught the truth about our forests by those who know most about the subject, the professional whose business it is to see that the forest industries do not run out of raw material."

Uttered with deliberation by Douglas W. Ambridge, president of Abitibi Power & Paper Co., these words jarred some 285 Canadian and New York superintendents, suppliers and their wives holding their fall meeting at Niagara Falls, Ont.

"There are thousands of people today who because they have no knowledge of the basic and elementary principles of forestry can be persuaded to believe that the industries which depend upon the forest for their raw materials are using the forests for their own immediate ends with no regard to the future . . . I am convinced that those of us with responsible jobs should be more active than we are in spreading the facts of forestry wherever we go."

These are fundamental truths which should be stressed, according to Mr. Ambridge:

1. Fire—most dreadful of all dangers to which forests are subject. Public carelessness is the major cause.

2. The forest is only a perpetual asset if it is properly harvested.

3. Intensive research is an indispensable part of forest management. Adequate and fruitful research can only be done by organizations which are large enough to afford it.

Mr. Ambridge then described his company's intensified use of hardwoods. He said they were about to begin production of a new product, "Platewood," which will use a high percentage of hardwood.

"We have one mill," he explained, "which produces newsprint sulfite from a mixture of hardwood, jackpine, balsam at high yield. He revealed that this is with the Arbiso process developed by Abitibi and using bisulfite liquor with no free SO_2. In this process they cook hardwood, jackpine, and conifers together. Percentage of hardwood is about one-third. He said Abitibi has no difficulty chipping hardwoods.

The use of semi-chemical pulp in newsprint furnish was good up to around 1400 fpm on Fourdriniers, he said.

PROBLEMS OF GROWING WOOD . . . How to treat land which does not regenerate satisfactorily? Some 85% of cut-over land will regenerate naturally, said Mr. Ambridge, but for some unknown reason nature "will just not work and has to be given a hand."

Abitibi has set aside 40,000 acres for a woodland laboratory. "I started this laboratory," he said, "and I am going to be dead before they find out anything."

As for replanting, Mr. Ambridge said that Abitibi uses some 15 million trees each year and that they would have to plant twice that amount because of mortality and (trying to figure it out to a logical arithmetical conclusion) a man couldn't plant more than 400 trees per day; that 75,000 mandays would be needed and that some 3,000 men would be required working for a month.

Answering a question as to the annual increment on Abitibi lands he said it was about 10 cu. ft. to 11 cu. ft. per acre per year, compared to about 150 cu. ft. in the South (U.S.A.).

"WHAT CAN I LOOK FOR WHEN INTERVIEWING A JOB APPLICANT?" . . . Here are some answers by Norman L. Bernard, Supervisor of Personnel at International Paper Co.'s Livermore Falls, Me., mill.

Search for something that is going to indicate how susceptible this man is to change or improvement. Look for anything that is going to indicate how far and how fast he can grow.

Some human requirements sought: Mentality, tolerance, firmness, dominance and activeness.

Tests are periodically reviewed to: Eliminate distrust; check tests results; determine if good for the man; improve personnel relations; to aid

against snap judgments.

As to procedure, IP deliberately inconveniences the applicant to be sure he is not a migratory worker just "passing through." They will ask him to come back for a 4-hr. test the following Saturday.

How well do unions accept these tests? (Mr. Bernard said unions have to be "sold" in each case. You have to proceed very slowly. At first, confine it to people coming in.) One union president came up to take the tests; seven years later brought his son and daughter.

"SAFETY IS SAVING A LIFE." . . . Sailing right into his talk on safety, Merline C. Race, safety engineer for all St. Regis Paper Co. operations, told the 'supers' that safety is saving a life. "If you have a clean mill, normally you will have a safe mill."

He described the St. Regis safety seminar held each year before the National Safety Council's convention for all St. Regis safety personnel.

One way of keeping up interest in safety, he cited, was to paint machinery; another is safety contests. He noted a case where a man had injured his arm using an electric drill on a late shift. A nearby worker, who had taken a First Aid course, applied a tourniquet. No doctor was available at the time and the man would have lost his arm, or life if he had not had prompt treatment.

Communication, too, is important, he added and you should keep your door open to the safety man. Demand reports from him, too.

Mr. Race stressed the excellent results obtained on the West Coast with the Pacific Coast Assn., where the accident frequency rate is down to 6.24. (For a report on this see PULP & PAPER, pages 84-85, April 1956.)

Officers for the coming year for the New York-Canadian Supts. Division are Lester J. Smith (St. Regis, Deferiet), chairman; Donald Hunter (Diamond Match, Ogdensburg), first vice chairman; Mark Rolland (Rolland Paper Co.), second vice chairman; and Ralph W. Peters (Eastman Kodak, Rochester), third vice chairman.

The 1957 fall meeting will be Aug. 29 at Saranac Inn, Upper Saranac Lake, N.Y.

THEY WERE LEADERS: Officers of the New York-Canadian Div., American Pulp & Paper Mill Supts. Assn. (l to r standing): DONALD A. HUNTER (Diamond Match Co.), First Vice Chairman; RALPH W. PETERS (Eastman Kodak), Third Vice Chairman. (L to r seated): LESTER J. SMITH (St. Regis Paper Co.), new Chairman; JOHN E. CARRUTHERS, (Interlake Tissue Mills Co., Ltd.), retiring chairman; and Z. J. "SHAG" CHAGNON, retiring Secretary. Not shown is Second Vice Chairman MARK ROLLAND of Rolland Paper Co.

Personal Notes

FROM A PULP & PAPER EDITOR'S NOTEBOOK AT NIAGARA FALLS, ONT., MEETING:

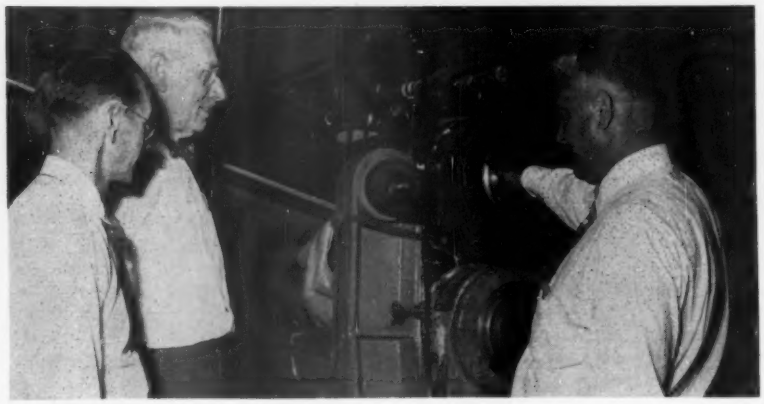
Superintendents' wives rode a Lockport Felt Co. plane for breath-taking views of the Canadian and American Falls. **DICK BUCKLEY,** sales manager for Lockport, was a busy man seeing that 75 guests were quickly transported to the airport for the trip.

KEN JONES, who formerly covered the West Coast for J. O. Ross Engineering Corp., and recently was transferred to Southern mills, drove up to Niagara in his new '56 Lincoln with **PAUL GOLDNER,** also of Ross. Ken now lives at Ramsey Estates, N. J., about 30 miles from New York. . . . **DICK D'ARCY,** based in Hercules' Montreal office, was happily telling one and all about his recent engagement.

WALTER BUCHANAN, mill supt. at St. Regis Carthage, N. Y. mill, was proudly squiring the Mrs. and son, Peter. Latter is studying business administration at Harper College, Endicott, N.Y. Also from St. Regis were Mr. & Mrs. **DONALD M. FERGUSON.** He recently became director of technical service at Deferiet. . . . **Z. J. CHAGNON,** exec. v.p., Albany Felt Co. of Canada, recalled his recent trip to the West Coast.

DON HUGHES, in Eastern sales for R. T. Vanderbilt Co., will now cover Michigan, Wisconsin and Minnesota as district manager of their Kalamazoo office. He and his wife, Mary Jane, and the two boys (they're expecting their first girl soon), will move to their new two-story home in Kalamazoo at 2520 So. Grove St. Taking over where Don left off in the East is **BILL CHENEY,** formerly research engineer at Time Inc.'s Springdale, Conn., lab. Bill has a 15-month old boy.

D. B. "DON" KILLIAN was another newcomer to the N. Y.-Canadian Supts. He now heads up white pigment sales for DuPont. Introducing Don was **RAY BASHFORD, JR.,** technical sales service for DuPont. . . . **GERARD CHAPMAN,** technical director at Columbia Boxboard Mills at Walloomsac div., received a plaque for his Bolton Award Essay, from **HAIGH M. REINIGER,** vp/sales, John W. Bolton & Sons Co.



THEY LEARNED: New size press on No. 3 Machine at Alliance Paper Mills Ltd. is inspected by (l to r) JOHN YADDOW, Production Supt., and GEORGE S. CARROLL, General Supt., both of Newton Falls Paper Mills, with expert guidance provided by SAM QUATTROCHI, Asst. General Mgr., Alliance.

New Trustees for Institute

The Institute of Paper Chemistry has elected three new members to its board of trustees. M. C. McDonald, president of Great Northern Paper Co., and Howard E. Whitaker, president of The Mead Corp., will serve for the term expiring 1961. Dr. Harold Bialkowsky, selected by Institute alumni for the newly created position of alumni trustee, will serve until 1959. Dr. Bialkowsky, one of only two members of the first graduating class of the Institute, 1933, is now Director of Research of the Pulp Division of Weyerhaeuser Timber Co.

NEW INSTITUTE TRUSTEES (L to r) M. C. McDONALD, Great Northern Paper Co., HOWARD A. WHITAKER, The Mead Corp., and HAROLD BIALKOWSKY, Weyerhaeuser Timber Co. (one of Institute's first two graduates).

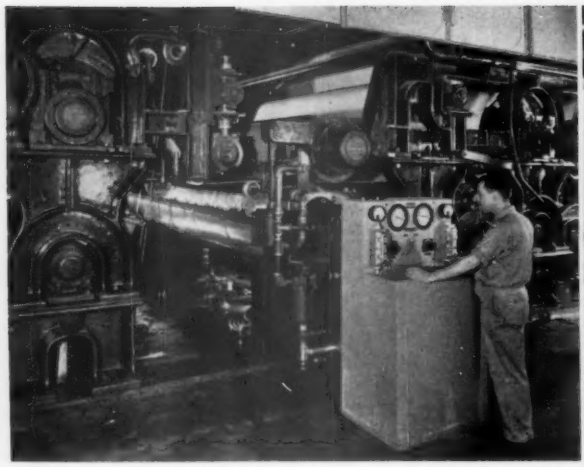
A. B. Layton, vice president of Crown Zellerbach Corp., who has been a trustee for the term now expiring, was elected a senior trustee to fill the term of the late D. C. Everest. Sydney Ferguson, chairman of the board of The Mead Corp., retires as a trustee for the current term. As a member since 1942 he has had an active share in the recent growth and development of the Institute.

Other members of the board who continue to serve: Douglas M. Knight, president of Lawrence College, ex officio; Karl E. Stansbury, chairman, Thilmany Pulp & Paper Co. and nominee of Lawrence College; John C. Strange, president of the Institute; Stuart E. Kay, vice president, International Paper Co.; Herbert T. Randall, vice president, Champion Paper & Fibre Co.; George E. Dyke, president, Robert Gair Co., Inc.; Thomas B. McCabe, president, Scott Paper Co.; Donald S. Leslie, president Hammermill Paper Co.; George Olmsted, Jr., president, S. D. Warren Co.; Alexander Calder, Jr., president, Union Bag-Camp Paper Corp.; Howard W. Morgan, vice president, Weyerhaeuser; David L. Luke, Jr., president, West Virginia Pulp and Paper Co.; W. Irving Osborne, Jr., president, Cornell Paperboard Products Co.; John L. Riegel, president, Riegel Paper Corp.; Dan K. Brown, former president of Neenah Paper Co.; and Ernst Mahler, former exec. v.p. of Kimberly-Clark and chairman of the board, the Institute.

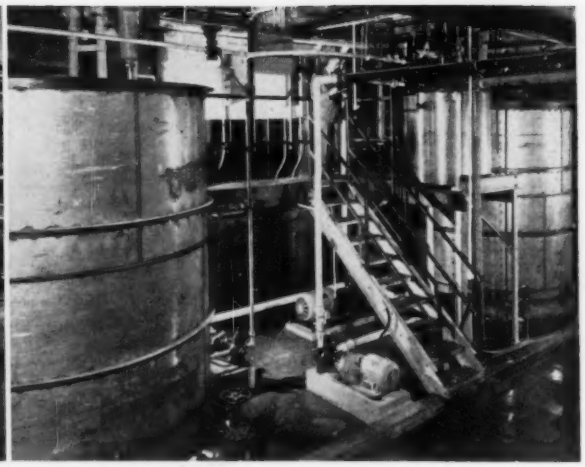
30 Scott Executives . . . All in One Place!

Getting Scott Paper Co. managers all together is quite a feat. Here are over 30 key Scott executives at a recent Harrison Hot Springs, British Columbia meeting. This photo shows Scott people from three countries—U.S., Canada and Mexico. Kneeling (left to right) are **JOSEPH W. SHIMP,** Plant Manager, Hollingsworth & Whitney Div., Mobile, Ala.; **HORACE F. WINCHELL,** Plant Manager, Westminster Paper Co. Ltd., New Westminster, B.C.; **EARL F. ANDERSON,** Vice Pres. & Plant Manager, Coos Bay Pulp Corp., Empire, Ore.; **THOMAS M. BARRY,** Plant Manager, Hollingsworth & Whitney Division, Scott Paper Company, Winslow, Me.; **RALPH J. WYTHES,** Plant Mgr., Scott Paper, Sandusky. O.; **ALBERT N. GARRET,** Plant Mgr., Marinette Paper Co., So. Glens Falls, New York; **RALPH J. KNOLL,** Dir. of Staff Tech. Serv.; **ROBERT I. THIEME,** Plant Mgr., Chester; **ALFRED J. KARPINSKI,** Dir. of Staff Engineering.

Standing (left to right): **JOHN W. McNICHOL,** Exec. Asst. Vice Pres., H&W Div., Mobile; **HENRY GRABOWSKI,** Plant Mgr., H&W Div., Scott Paper, Madison, Me.; **GILBERT L. HEATH,** Vice Pres. & Plant Mgr., Falls Paper & Power Co., Oconto Falls, Wis.; (far rear, against glass) **JOHN ASHBY,** Vice Pres., Westminster Paper Co., New Westminster; **ELMER M. HERB,** Pres., Westminster Paper Co., New Westminster; **DARCY B. WILKINSON,** Eastern Reg. Mgr.. Operations; **CHARLES D. DICKEY, JR.,** Assistant Vice Pres., West Coast Div., Scott Paper, Everett; **RAYMOND C. MATEER,** Exec. Vice Pres., Scott Paper Co.; **PAUL C. BALDWIN,** Vice Pres., Scott Paper Co., Chester; **WALTER W. HOLLAND,** Vice Pres., British Columbia Forest Products, Ltd., Vancouver, B.C.; **GEORGE F. BLESSING,** Administrative Asst. to Vice President; **WALTER A. STARR,** Member, Board of Directors; **RODERICK H. SEARS,** Vice Pres. & Plant Mgr., Marinette Paper Co., Ft. Edward, N.Y.; **EDWARD J. GAYNER, III,** Pres. & Gen. Mgr., Brunswick Pulp & Paper Co., Brunswick, Ga.; **JOHN B. HAY,** Plant Mgr., Scott Paper, Hoboken, N.J.; **WALTER C. MILLER,** Vice Pres. & Plant Mgr., Coos Bay Pulp Corp., Anacortes, Wash.; **HARRISON F. DUNNING,** Vice Pres., Scott Paper Co.; **ROY L. DAVIS,** Exec. Vice Pres., Compania Industrial de San Cristobal, S.A. of Mexico; **LOREN V. FORMAN,** Gen. Mgr., West Coast Div., Scott Paper, Everett; **FORREST W. BRAINERD,** Special Asst. to Exec. Vice Pres.; **MARTIN F. SCHNAUFER,** Plant Mgr., Detroit Div., Scott Paper, Detroit, Mich.; **EDWARD P. WOOD,** retired Plant Mgr., H&W Div., Mobile; **BURNELL S. GARRETT,** Director of Product Standards.



(Left) MUCH ADVANCE planning was necessary to fit this new BAGLEY & SEWALL size press into center of drying section. First of its kind in the Northwest are the MASON-NEILAN moisture control systems shown here. GEO. A. SALZER, Paper Mill Shift Supt., is at controls.



(Right) STAINLESS STEEL tanks, agitators, pumps and control system cooks, stores and circulates starch to the new Bagley & Sewall size press. J. LARRY AITKENS, Engineer, Rayonier's Central Eng. Div., checks equipment prior to startup.

Size Press to Give Broader Paper Range

RAYONIER's 202 in. Fourdrinier machine at its Grays Harbor Div., Hoquiam, Wash., has a new size press Designed to effect the manufacture of better quality papers in a broader range of grades, these improvements will give that mill a better competitive position, according to George A. Holt, resident manager.

Bagley & Sewall Co., who made the original machine, installed the surface sizing equipment during a 7-day shutdown. Involved was the changeover of four dryer rolls, rewinder and calender stacks. The size press is now in the center of the dryers, replacing four large dryer rolls which have been moved to the back end of the dryers, displacing the rewinder and calender stacks. The latter were in turn relocated previously.

Installation of the new starch making system involves three stainless steel tanks, agitators, pumps and Mason-Neilan control system. This equipment cooks, stores and circulates the starch to the size press. Major alterations to the paper drying facilities were required. The Mason-Neilan moisture control system, the first of its kind in the Northwest, was installed in addition to increasing the capacity of the moisture exhaust system.

New Knowledge on Lignin and Cellulose

"Some Recent Researches on Cellulose Derivatives and on Lignin" was the subject of recent seminars (10th annual), sponsored by Pacific Section TAPPI with Dr. Clifford B. Purves of McGill University and the Pulp and Paper Research Institute of Canada as star performer. About 80 young mill employes participated in two-day sessions, some at the University of Washington, in Seattle, and others at the Central Research Dept., Crown Zellerbach Corp., Camas, Wash.

On the first day the discussion centered around methods of locating substituent groups in cellulose ethers, nitrates and xanthates. Dr. Purves showed how the more classical procedures, when applied to cellulose ethers, had given substantial information regarding the location of groups, and then how paper chromatography has been applied recently at McGill and elsewhere to simplify the work and extend the observations.

The positions of substituent groups in cellulose nitrates and xanthates has been less rigorously defined than is the case with cellulose ethers. Not only has less research been done in this field but also the nitrates and the xanthates are much less stable, with the result that erroneous conclusions could be drawn if care is not exercised. Dr. Purves covered the recent advances in this field and the practical implications.

Recent work on lignin regarding the sulfonation process in sulfiite pulping and oxidation by chlorine dioxide and alkaline hypochlorite occupied the second day's discussion. Lignin obtained by periodate oxidation of wood meal has proven an excellent starting point for such work, This "periodate lignin" is probably the closest approach to a "free" lignin comparable to lignin as it exists in the wood that has so far been obtained. Its complete lack of solubility in normal solvents and its similarity of action with pulping liquors point up this fact. It is not exactly identical with lignin **in situ** but it retains the botanical structure.

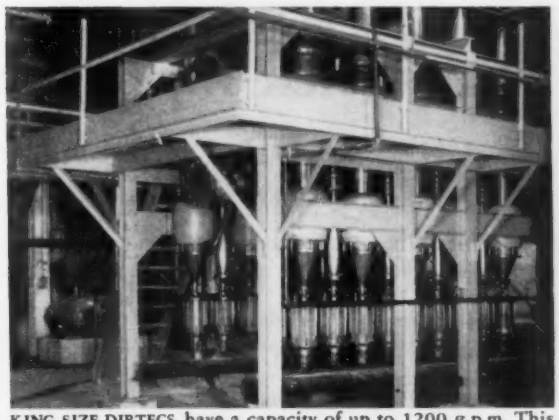
Experiments on sulfonation of periodate lignin have served to confirm the two-stage theory of sulfite pulping put forth by Hagglund and others. The first stage is formation of an insoluble lignin sulfonic acid, which by autohydrolysis in a second stage is converted to soluble derivatives. The autohydrolysis cannot proceed until at least 2.7% of sulfur has been introduced into the lignin in the first stage of the reaction.

Periodate lignin was also suitable for characterizing the methods by which alkaline hypochloride and hypoiodid or chlorine dioxide attack residual lignin in the bleaching processes. Various oxylignin derivatives obtained were discussed, to show the type of oxidation or other reaction which occurs.

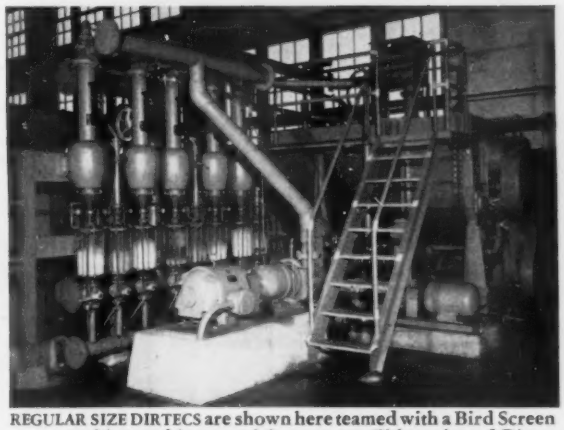
How many DIRTECS *do you need?*

Dirtecs have proved to be such a simple, effective, relatively inexpensive means of dirt removal that they have been widely adopted not only ahead of the paper machine and as tailings units for Bird Screens, but in the pulp mill and even in water supply lines.

How many you need, and what size, depends naturally on the volume to be handled. Ask us for recommendations, layouts & estimates.



KING SIZE DIRTECS have a capacity of up to 1200 g.p.m. This battery is taking the shives and dirt out of 360 tons of pine groundwood per day.



REGULAR SIZE DIRTECS are shown here teamed with a Bird Screen on a machine making specialty papers. Either size of Dirtec may be equipped with automatic dirt evacuators if desired.

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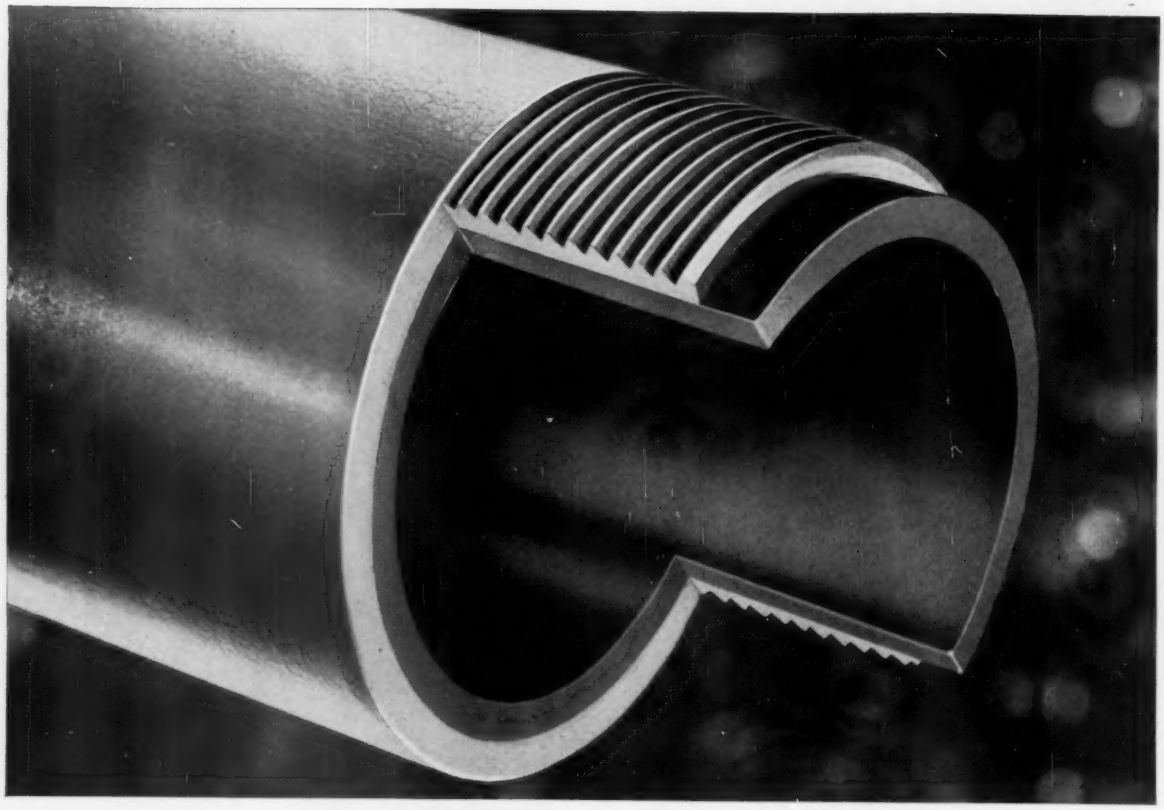

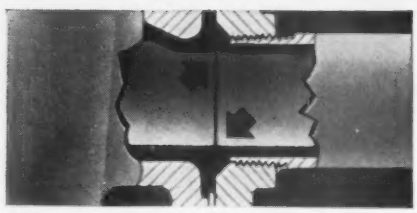

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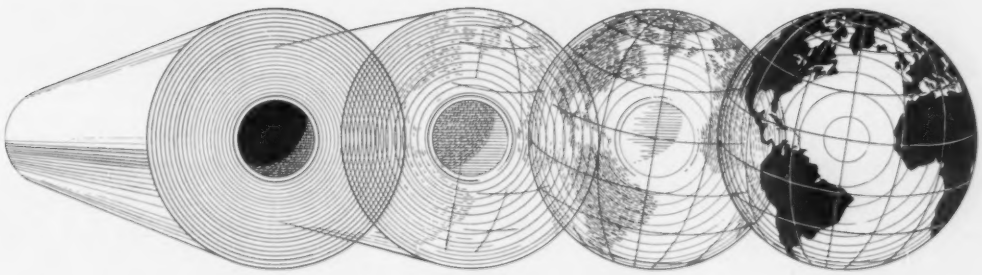

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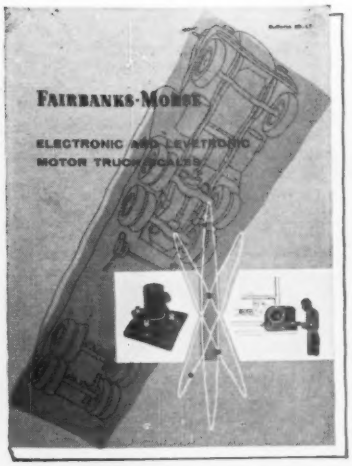
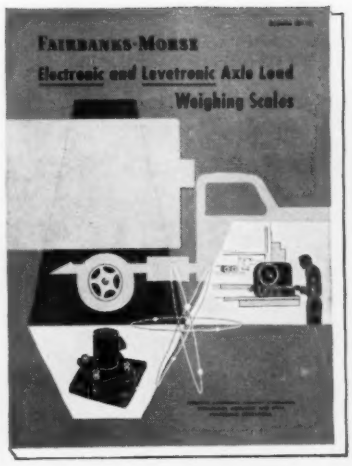
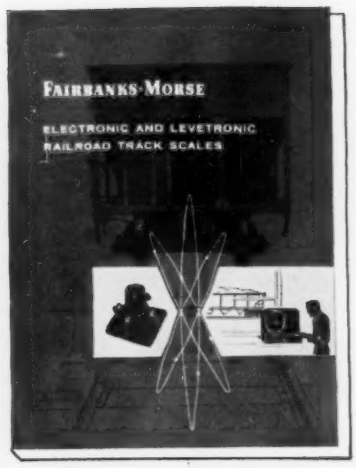
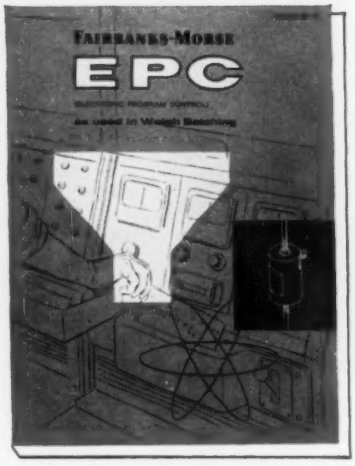
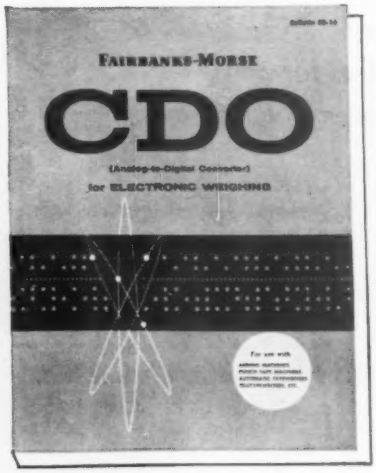








The story of Fairbanks-Morse Electronic Scales in seven volumes



Just off the press—seven new bulletins about Fairbanks-Morse electronic weighing and batching machinery. The covers pretty well identify themselves as illustrated above, except that you might not know that EPC is a completely automatic batching system that operates from punch cards . . . or that Batchetron is a slightly less automatic batcher with quick provision for manual preset of the cycle . . . or that CDO is a "read-out" instrument that will translate the weight message of any of the other six into the language "spoken" by automatic typewriters and automatic adding machines and automatic tape punches.

Write today for one or more of the new bulletins on Fairbanks-Morse electronic weighing and batching. Fairbanks, Morse & Co., Scale Division, Dept. PUP-11, 600 South Michigan Avenue, Chicago 5, Illinois.

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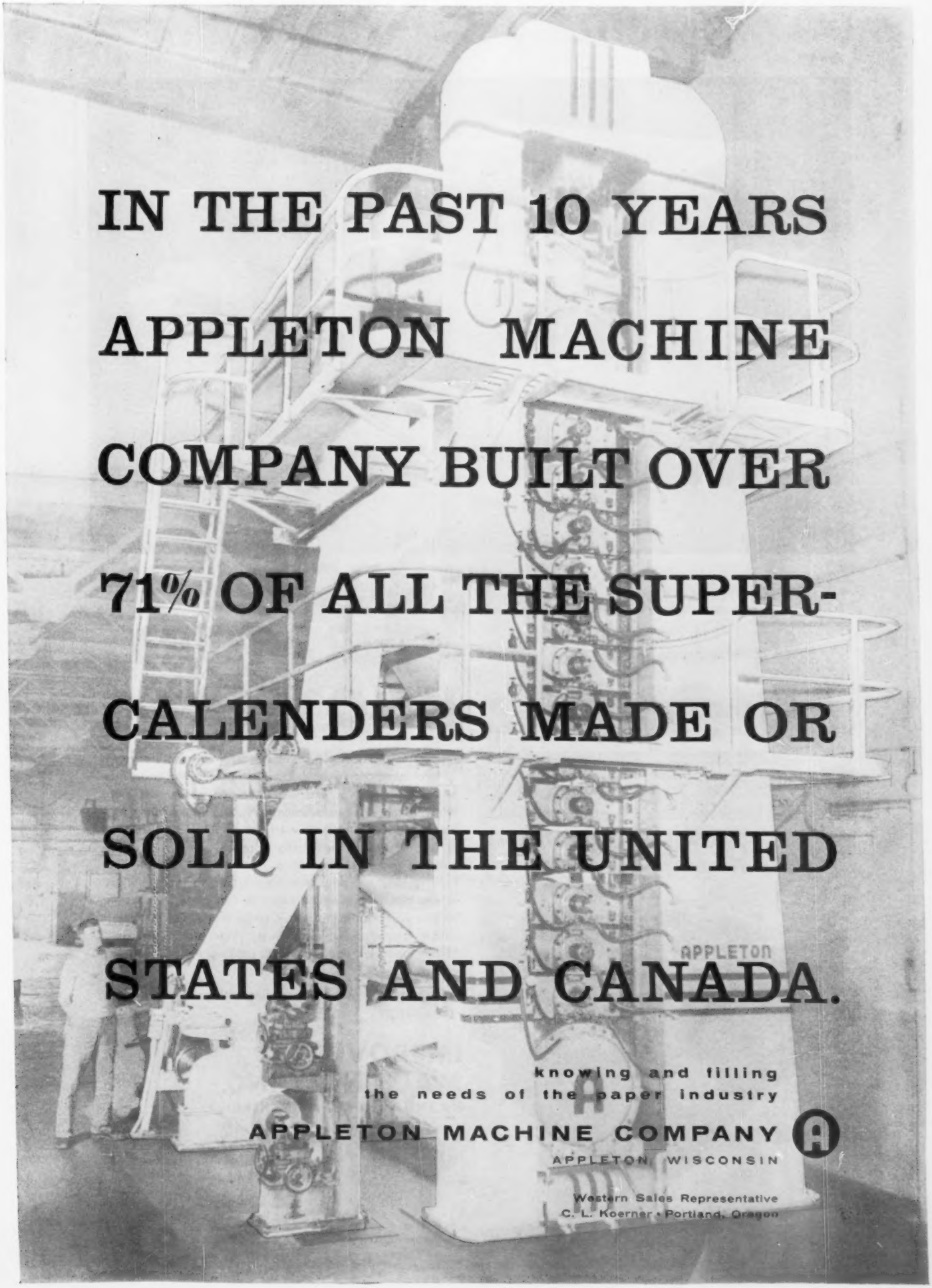
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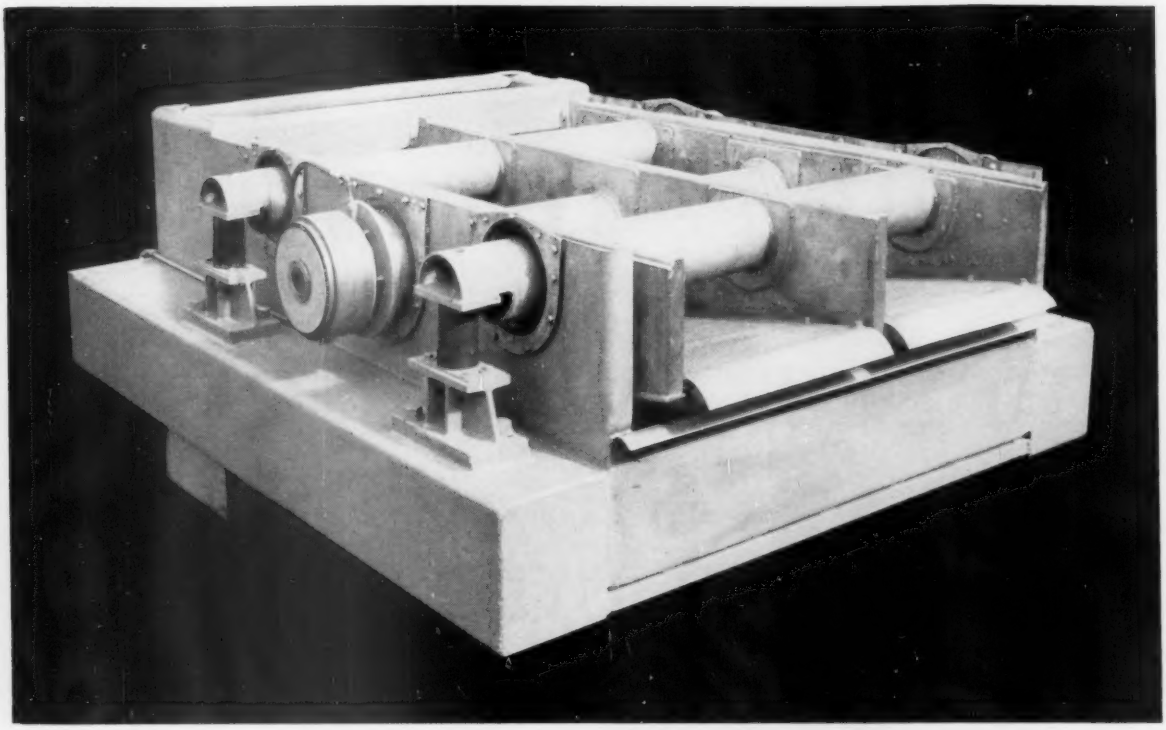

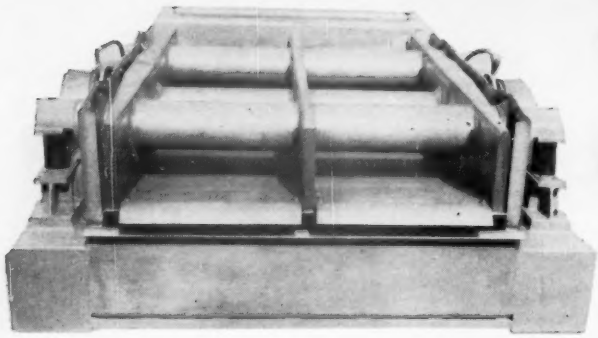

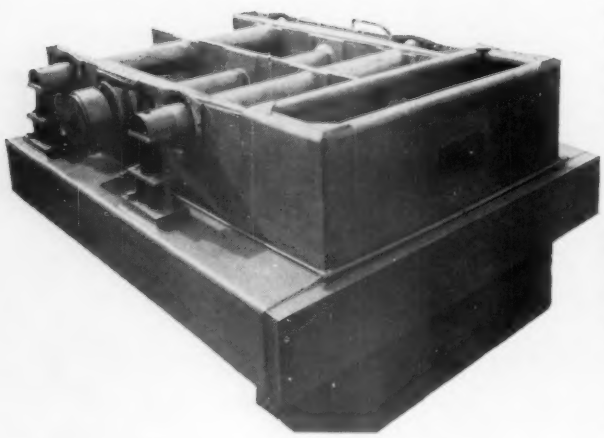

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Here is a unit which contains several new features never before incorporated in knotters. Double wall construction of the stainless vat and center section guarantees extra long basket life. Rubber mounts support the vibrating basket as well as the vat itself, eliminating old-fashioned springs as well as minimizing vibration transmission to the building members. The built-in inlet box lends itself to subfloor piping as does the discharge. Six sectionalized screen plates are advantageous in that plate changes for various fibre clarifications are easily made. Oil mist lubrication, proper seals, and flinger rings protect the antifriction bearings against water, cooking liquors, and hot vapors.

Largest plate area is in keeping with present day peak capacities.

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- FLEXIBILITY IN OPERATION
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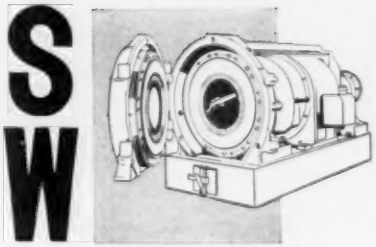
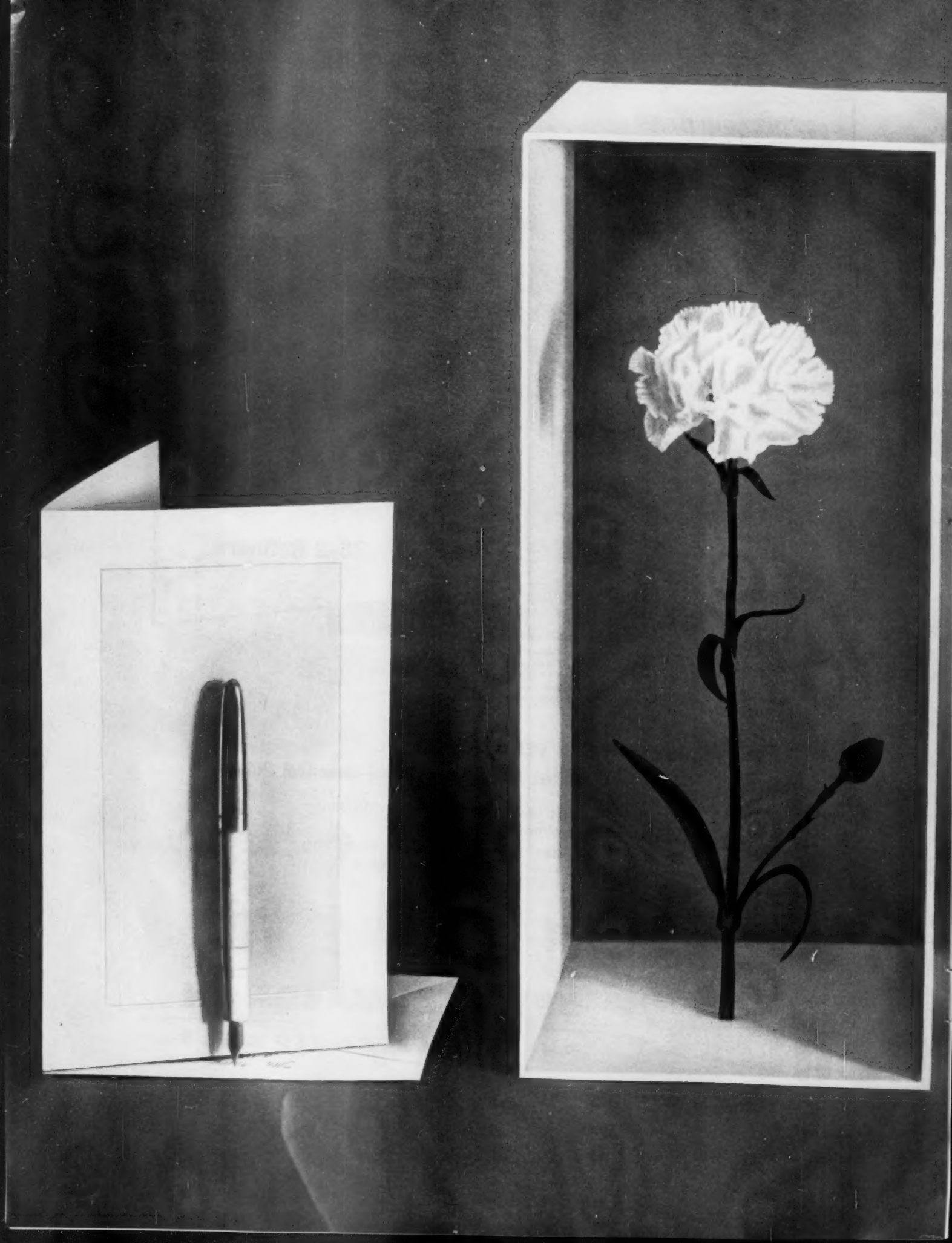


For more information on semi-chemical pulping or any other pulping problem ask for our file of mill technical reports on your problem. Write to Sprout, Waldron & Co., Inc., 32 Logan St., Muncy, Pa.

SPROUT-WALDRON

PULP MILL EQUIPMENT

PP/423



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The Hinton mill is progressing far beyond expectations and in January of next year the first pulp will be available . . . soon to swell to a volume of 430 tons a day.

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Burgess "Iceberg" Pigment	.032¢	Coating Clay	.015¢
Burgess "Icecap K" Pigment	.04¢	TiO_2	.24¢

ITEM	*COST*	
	"Iceberg"	*"Icecap K"*
Burgess Product (3 lbs.)	.096	.120
Coating Clay (eliminate 2 lbs.)	.030	.030
Total Cost	.126	.150
TiO_2 (1 lb. eliminated)	.240	.240
SAVING	.114	.090

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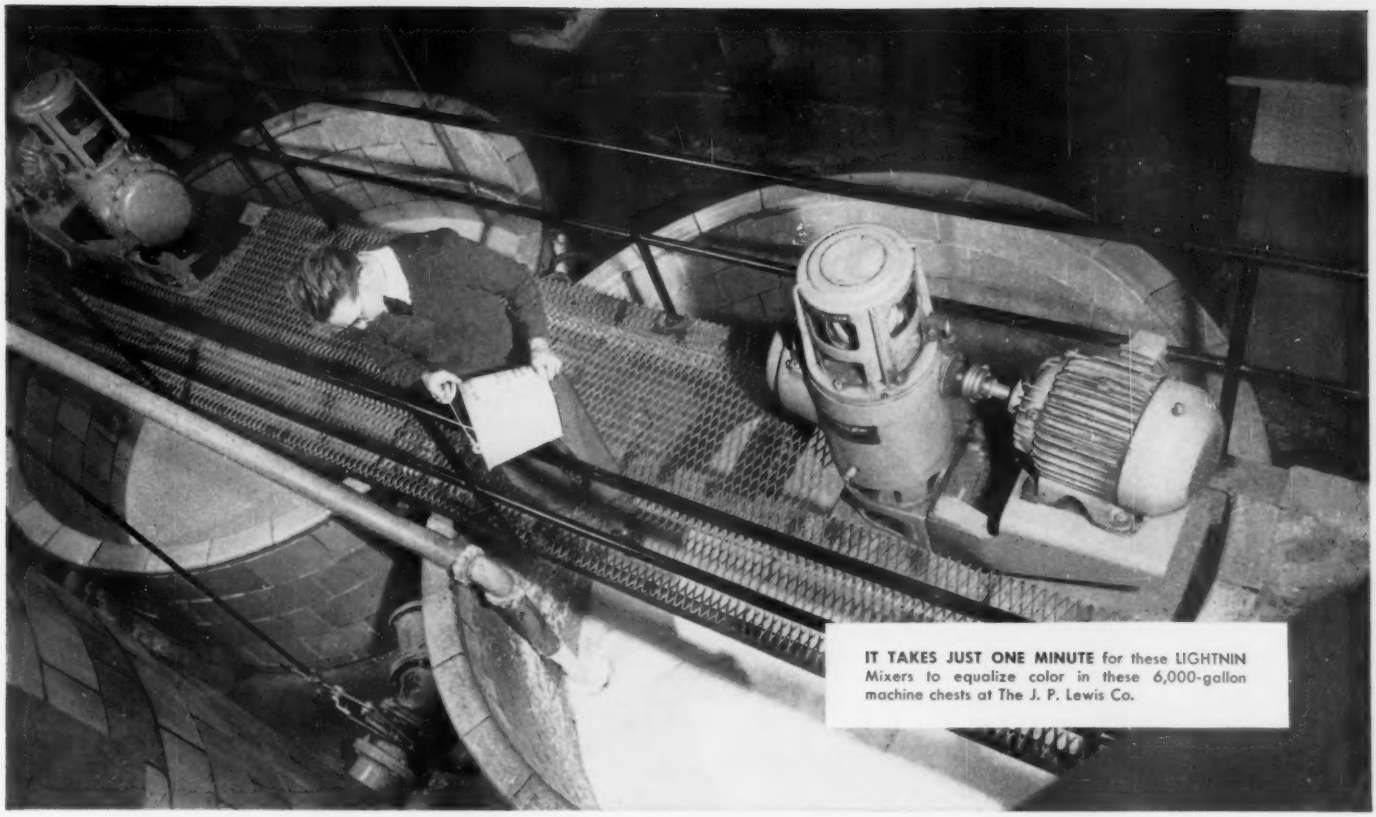
- **HYDROUS AND ANHYDROUS ALUMINUM SILICATE PIGMENTS**
- **KAOLIN CLAYS**



IT TAKES JUST ONE MINUTE for these LIGHTNIN Mixers to equalize color in these 6,000-gallon machine chests at The J. P. Lewis Co.

One-minute color change

adds as much as an hour to this mill's productive day

What could *one-minute color control* do for you?

For The J. P. Lewis Co., Beaver Falls, N. Y., it means 80% less wet broke on the machine—plus a clear dividend of 40 to 60 minutes' productive machine time per day.

At this mill, groundwood stock of 4% consistency flows into 6,000-gallon beater chests where LIGHTNIN Mixers turn it over rapidly, keeping it uniform.

In just *one minute*, the LIGHTNINs disperse color additions evenly throughout the stock.

Final color adjustment takes place at the machine chests, also equipped with LIGHTNIN Mixers. Again, the LIGHTNINs bring 6,000 gallons of stock to full uniformity—in one minute.

No more rethreading

Results: The off-color sheet, previously stripped off the machine as wet broke, has been reduced by four-fifths. The small amount of off-color sheet now produced runs through to the rewind rolls, where it is removed as dry broke. It is no longer necessary to rethread the drying rolls and calendar stack when color is changed. J. P. Lewis gets up to an hour more production per day off the machine.

The LIGHTNINs require only routine lubrication. And chests are easy to clean—have no baffles to cause clogging and rotting; can be hosed down to pump suction without losing a minute's production.

How to get results

Want to get more out of *your* chests? Put LIGHTNIN Mixers into them. We can equate what you want done, with the horsepower it takes to do it. You get the exact power-speed combination that matches your needs.

LIGHTNINs are giving good results on stock consistencies up to 6%, in chests as large as 285,000 gallons. Results are guaranteed, unconditionally.

For quick, competent help, call your LIGHTNIN Mixer representative. Or write us today.

Lightnin® Mixers

MIXCO fluid mixing specialists

FAST-FLOWING STOCK tumbles and rotates uniformly, driven by LIGHTNIN four-blade propeller; does not vortex, even in unbaffled chest.

FOR LATEST MIXING INFORMATION and full description of LIGHTNIN Mixers, send for these helpful bulletins:

- ☐ B-102 Top or bottom entering; turbine, paddle, and propeller types: 1 to 500 HP
- ☐ B-103 Top entering; propeller types: ¼ to 3 HP
- ☐ B-108 Portable: ⅛ to 3 HP
- ☐ B-104 Side entering: 1 to 25 HP
- ☐ B-112 Laboratory and small-batch production types
- ☐ B-109 Condensed catalog showing all types
- ☐ B-111 Quick-change rotary mechanical seals for pressure and vacuum mixing
- ☐ B-107 Data sheet for figuring mixer requirements

Check, clip, and mail with your name, title, company address to:

MIXING EQUIPMENT Co., Inc. 141-M Mt. Read Blvd., Rochester 11, N. Y.

In Canada: Greey Mixing Equipment, Ltd., Toronto 10, Ont.

For higher wet strength with minimum add-on...

SCRIPTITE* 40

Increased cationic effect of new Monsanto resin assures more complete exhaustion!

Scriptite 40 is a *new* concept in urea formaldehyde resins for paper finishing. Extensive mill trials have demonstrated that this Monsanto urea resin provides special advantages in improved performance over competing urea resins.

Scriptite 40 will impart outstanding wet strength for your paper product—and at the same time improve dry tensile, mullen, wet rub resistance, dimensional stability and folding endurance.

Because this new water-soluble urea-type resin has been made more cationic, it is strongly attracted to the cellulose, assuring high efficiency in application. Scriptite 40 provides faster cure, and paper products maintain a higher wet strength value with less resin add-on than is usually required.

For laboratory sample of Scriptite 40 and technical bulletin, write to Monsanto Chemical Company, Plastics Division, Room 924, Springfield 2, Mass.

The Monsanto Line of Paper Resins also includes

SCRIPTITE 54 . . . *for outstanding water resistance and both wet and dry rub resistance*

SCRIPTITE 52 . . . *in combination with formaldehyde to give water resistance to folding boxboard and to jute liner*

SCRIPTITE 50 . . . *for unsurpassed printability and improved surface characteristics on boxboard*

SCRIPTITE 33 . . . *a melamine wet-strength resin*

MONSANTO

*SCRIPTITE: REG. U. S. PAT. OFF.

No more stock valve leakage at this mill

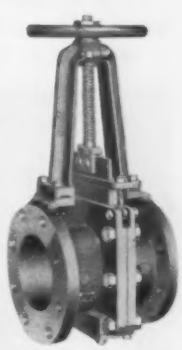
THE CASE HISTORY—Based on 8 years of trouble-free performance from Crane pulp stock valves, this large Southern mill is replacing all other stock valves with Crane as quickly as possible.

Here's why this mill is standardizing on Crane throughout: the other makes used in the past 8 years have caused a constant leakage problem. Small accumulations of fibers were piling up under their discs and preventing closure. Also, they were causing build-up, or "dead" stock, in low velocity lines and blocking flow.

With Crane valves none of these troubles were found. Typical are the Crane No. 1427 12- and 14-inch iron body valves shown above—with 8 years' rock-bottom maintenance on lines to stock pump and storage chest at fourth stage in the bleach plant. Through their shearing action disc against deep notches in the body, Crane stock valves seat cleanly and tightly without clogging and leaking.

And with Crane unrestricted flow design, with square, spacious center passage, there are no pockets where pulp impaction or "dead" stock can pile up. Performance like this is typical of Crane valves—for Crane design and Crane quality are based on over a century of valve engineering experience in all industries.

Crane iron body pulp stock valves are available in sizes up to 24 inches, including rubber lined, with a variety of trims. And you can now order all-new Crane stainless steel stock valves with short face-to-face design—low-cost and lightweight—for your corrosive stock lines.



Call your local Crane Representative for help in specifying and ordering, or write to address below.

CRANE VALVES & FITTINGS

PIPE • KITCHENS • PLUMBING • HEATING

Since 1855—Crane Co., General Offices: Chicago 5, Ill. Branches and Wholesalers Serving All Areas

Maintenance engineering

You can arrange to have a Honeywell service engineer visit your plant at regular intervals to inspect, clean, and adjust your instruments and controls. He's factory-trained and field-experienced in keeping good instruments in top operating condition. If an emergency should arise, a phone call will bring a Honeywell service engineer to your plant in a hurry.

Spare parts, in a rush

A Honeywell branch office near you can be your storeroom for standard parts . . . in addition, the Parts Depot in Philadelphia carries a complete stock of all normally used parts. With Honeywell stocking your spare parts, you save storage and inventory control costs. Most shipments are made within 24 hours after orders are received.

Service is the

Practical service training

The tuition-free Honeywell Training School teaches your instrument technicians the most up-to-date maintenance methods, fits them for the kind of problems they may encounter on the job. Intensive courses range from two to fourteen weeks.

Application engineering

Experienced Honeywell application engineers know your industry and processes. They design *complete* systems of instrumentation, reducing the work of your own engineering staff. From the broad Honeywell line, they recommend instruments that are exactly right for the job. And because Honeywell supplies all types of instruments, recommendations are made without bias. Service engineers will, if needed, help with installation and startup of your system.

big extra you get with Honeywell instrumentation

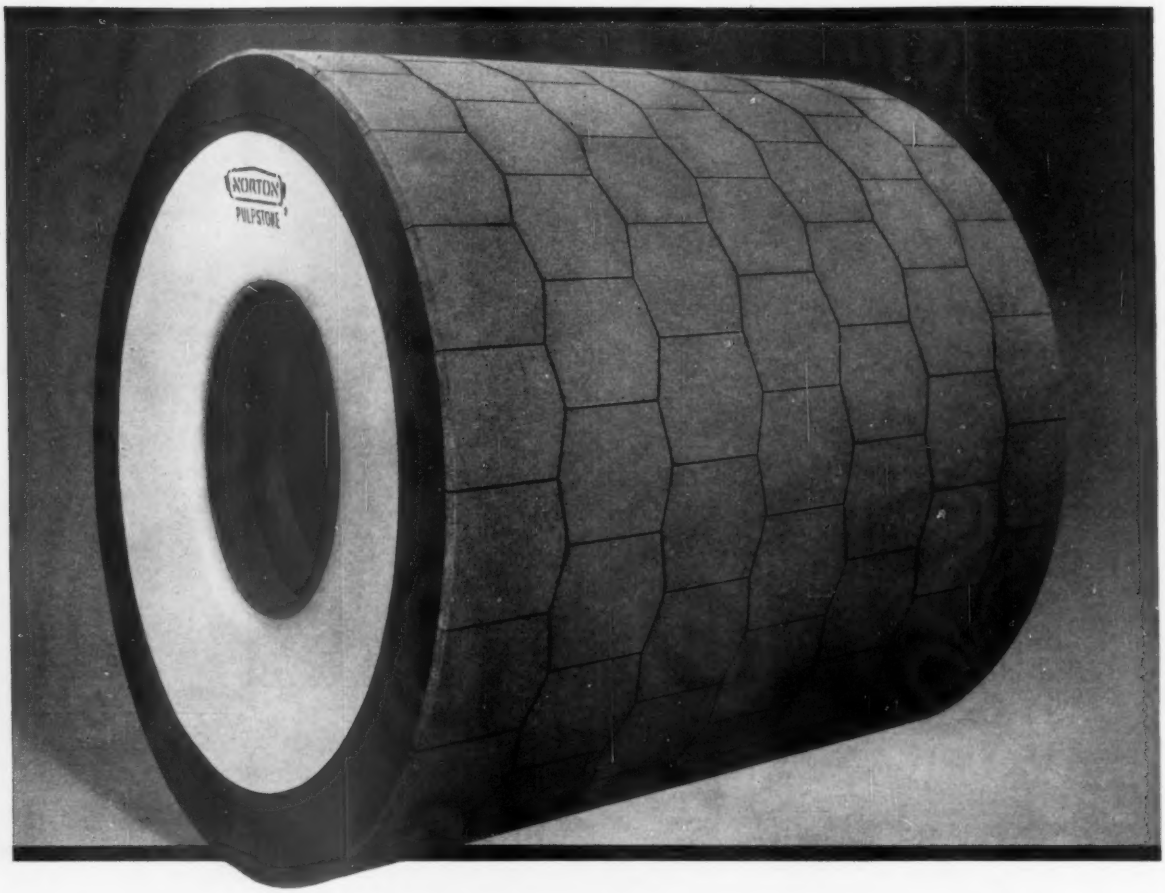
Honeywell offers you far more than instruments. You get service whenever and wherever you need it . . . service that begins when you first decide you need instruments, and continues long after they're installed. This service is always conveniently close at hand, for there are more than 110 Honeywell sales and service centers located strategically throughout the U. S. and Canada.

Prompt, competent service by nearby field specialists is an important plus-value of Honeywell instrumentation. Your local Honeywell sales engineer has all the facts on this service as it relates to your instrumentation needs. Give him a call . . . he's as near as your phone.

MINNEAPOLIS-HONEYWELL REGULATOR CO., *Industrial Division*, Wayne and Windrim Avenues, Philadelphia 44, Pa.—in Canada, Toronto 17, Ontario.

H HONEYWELL

MINNEAPOLIS Honeywell
BROWN INSTRUMENTS
First in Controls



Better Pulpstones mean better pulp...better paper

Uniform pulp makes better paper because it makes more opaque paper . . . paper with an entirely better finish.

And Norton Pulpstones make better and more uniform pulp. Why? . . . because they reduce pulp variation by holding their impression, even after several days' operation.

Norton Pulpstones are famous, too, for reducing sulphite content . . . another way in which they lower costs.

When sharpening *is* needed, it's a simple, low-cost operation . . . you get the Norton Pulpstone back at work with a minimum of delay and labour.

Norton technicians have years of accumulated know-how in the business of grinding pulp. This experience is at your service . . . enlist it today.

NORTON
PULPSTONES

Making better products . . .
to make your products better

NORTON COMPANY, WORCESTER 6, MASS.
Norton Company of Canada, Ltd., Hamilton, Ont.

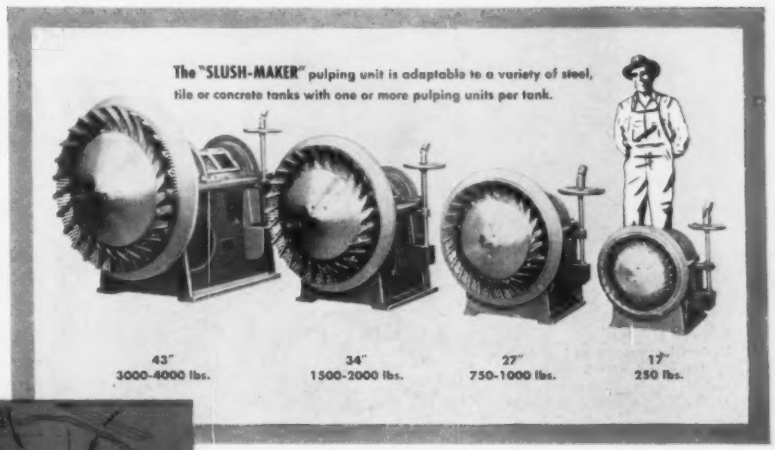
MORDEN

SLUSH MAKER®

Patented

For Pulping

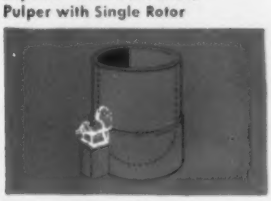
The Morden "Slush-Maker" can be used for either continuous or batch operation. Whichever method is used, there is a rapid defibering.



These thumbnail sketches show some of the many tanks that can be designed to suit specific mill requirements.

Dry-End Continuous Broke Pulper with Single Rotor

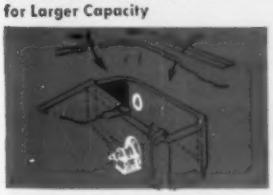
Low-Headroom— Side-Discharge Tank



Special Single-Wall Cylindrical Tile Tank

Standard Double-Rotor Tank for Larger Capacity

Special Cylindrical-Top Steel Tank



Dry-End Continuous Broke Paper Pulper with Double Rotor

Standard Tank with Special Charging Port

Advantages

- **Full Bales or Slabs** can be charged by hand, lift truck or conveyor.
- **Dry-End Broke** can be handled continuously, directly under the paper machine.
- **Wet-Strength Papers** are readily reclaimed with the "Slush-Maker".
- **Rapid Pulping Action** permits greater production per day.
- **Operation** can be batch or continuous.
- **Vigorous Circulation** thoroughly mixes the colors and chemicals in less than a minute.
- **Completely Cleared Stock** reduces amount of beating and jordaning treatment required after pulping.
- **Tramp Materials** will not damage or bind the pulping unit.
- **Side-Mounted Pulping Unit** permits low-headroom applications, simple drives.

Northeastern States Representatives:
ORTON CORPORATION, Fitchburg, Massachusetts
Midwestern States Representatives:
DAN B. CHAPMAN, Appleton, Wisconsin
Southern & Southeastern Representatives:
BRANDON SALES, INC., Greenville, S. C.

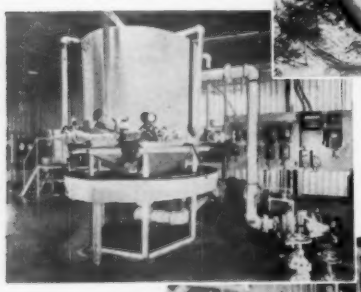
MORDEN
STOCK PREPARATION EQUIPMENT
MACHINES COMPANY

3420 S. W. MACADAM

PORTLAND, OREGON

Aerial view of Thiele plant.

Cleaning equipment at mine.

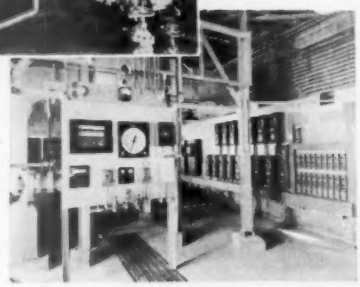


THIELE KAOLIN

Water-Washed, Spray-Dried

COATING CLAYS

meet the most rigid requirements for • excellent color • high brightness • uniform low viscosity.



Modern instruments and controls for Spray Drying Plant.

THIELE PAPER CLAYS are closely controlled in quality.

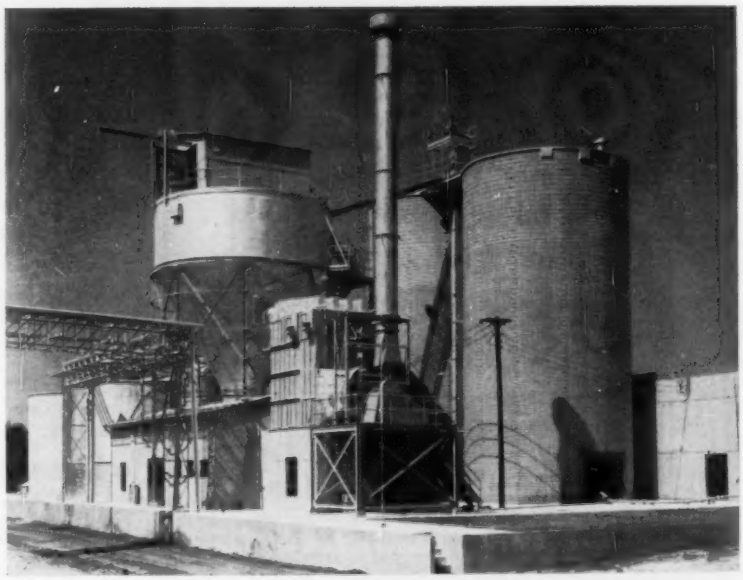
Extensive holdings throughout the heart of the Georgia clay belt give assurance of a dependable source of supply. Processing is done at Thiele's modern plant at Sandersville — where tremendous storage and latest processing facilities are available.

Thiele's new Spray Drying plant is second to none—providing users of Thiele Clays with such important benefits as—

- **Uniform Low Moisture Content**
- **Savings on Freight**
- **Improved Handling**
- **Easier Make-Down**

Thiele Can Help You Make A Better Product.

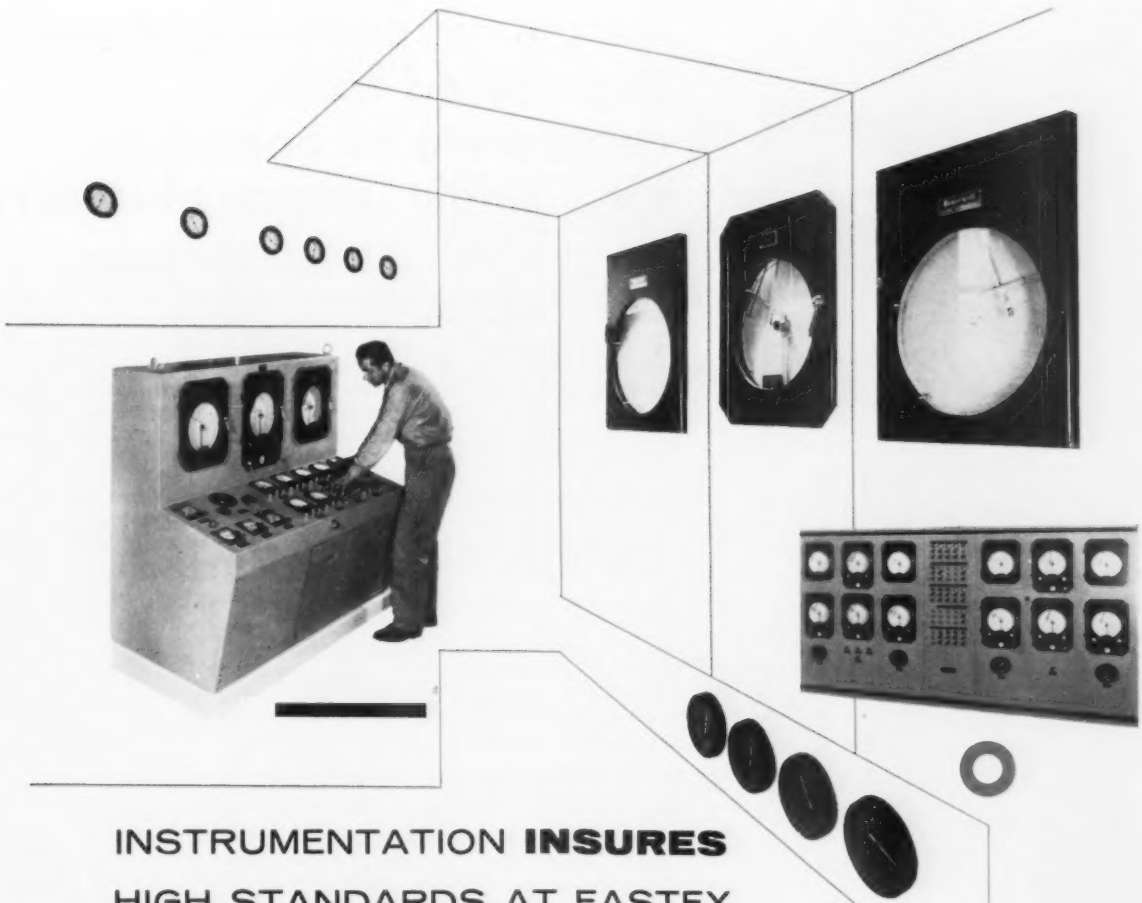
Write for full information and a sample of Thiele Kaolin Coating or Filler Clay for your particular use.



View of new Thiele Spray Drying Plant.

Thiele Kaolin Company

P. O. BOX 270 • SANDERSVILLE, GA.



INSTRUMENTATION **INSURES** HIGH STANDARDS AT EASTEX

Eastex is one of the most highly instrumentalized pulp and paper mills in the industry!

Around the clock, a total of 643 instruments ($1,000,000 worth) control and record the processing of bleached pulp, bleached and semi-bleached board.

This means a higher degree of efficiency . . . greater control over quality.

The result is your order is filled to exact specifications. Instrumentation insures the standard *you* set—enables us to maintain a quality second to none!

For chlorine dioxide bleached market pulp, and bleached and semi-bleached converting board grades contact:

EAST TEXAS *Pulp and Paper Company*

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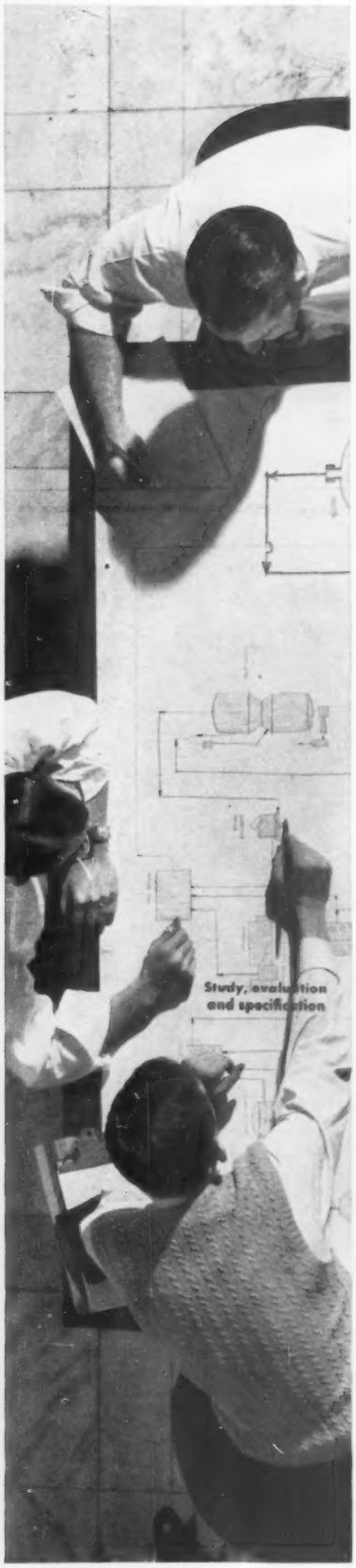
P. O. Box 816, Silsbee, Texas
Telephone Evergreen 5-3711

EASTERN SALES OFFICE
122 East 42nd St., New York City, N. Y.
Telephone OXford 7-2980

WESTERN SALES OFFICE
1003 Builders Bldg., Chicago, Ill.
Telephone RAndolph 6-1068



Automatic control systems engineered from conception to operation by a single, responsible service

The economy and efficiency of start-to-finish engineering of automatic control systems is available from Panellit Service Corporation. This staff of mechanical, electrical and chemical engineers—all with process experience—offers the broad scope of instrumentation services outlined below. Where management's own instrument and process engineers or contracting organizations are available, Panellit Service Corporation supplements this personnel and provides specialized experience. Corporation activities have included major instrumentation projects in the process, power and atomic energy industries and for engine test facilities.

Studies and evaluations of instrument requirements are made, and recommendations are submitted. If desired, detailed specifications are prepared permitting the customer to invite bids on the recommended equipment.

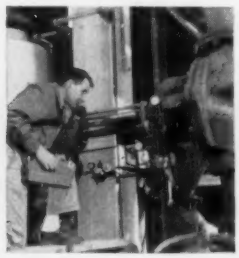
Equipment installation, inspection and check-out are supervised by Corporation instrument engineers working with factory-trained craft foremen and technicians. Typical field work includes erecting panel boards, installing field-mounted transmitters, making electrical or tubing interconnections, as well as system testing, calibration, and start-up. (Installation services are offered for instrumentation only, not for its associated process equipment.)

Field maintenance of installed instrumentation is also provided by Panellit Service Corporation on a contract basis.

Overall project coordination of these individual services places entire responsibility for automatic control systems in one qualified organization. Since Panellit is concerned mainly with systems and manufactures no standard instruments available elsewhere, the Corporation has an impartial approach in recommending system components. Your inquiry is invited.

Equipment installation and check-out

Field maintenance



Overall project coordination

PANELLIT SERVICE CORPORATION

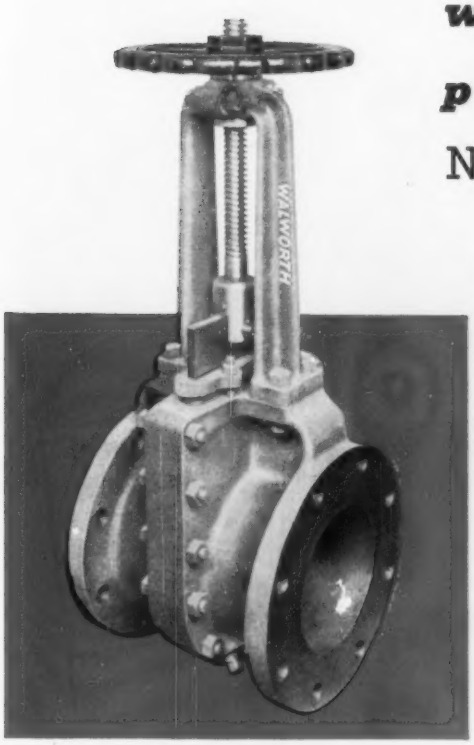
PANELLIT PSC SERVICE CORP

7425 N. Hamlin Avenue • Skokie, Illinois

Panellit of Canada Ltd., Toronto 14

ASSURE *clogproof valve operation on stock lines with* WALWORTH *pulp stock valve*

No. 757F sizes 4" to 16" inclusive

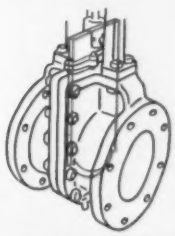


Clogproof operation makes this Walworth Gate Valve particularly suitable wherever pipelines transport pulp stock or other suspensions carrying solids or fibrous matter. There are no bonnet recesses or body obstructions to accumulate matter . . . circular ports permit full flow . . . semi-circular gate closes to a tight leakproof shutoff.

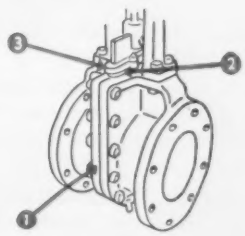
Suitable for a wide range of fluids and operating conditions, this unique valve design is available in All Bronze, Iron Body with Bronze Trim, Iron Body with Stainless Steel Trim, and All Stainless Steel construction. Handwheel, sliding-stem-and-lever, motor, and cylinder operation are available.

The complete Walworth line now includes valves and fittings for "across-the-board" use in pulp and paper mills. Gate, globe, angle, check and lubricated plug valves, as well as pipe fittings, in all conventional sizes and types. For additional technical data on the No. 757F — or any Walworth product — see your nearby Walworth Distributor or write:

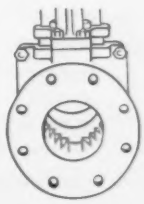
Check these features:



Semi-circular Shearing Gate... Sharpened, beveled edge of the gate shears through matter without touching inlet or outlet halves of the body. At point of closure a tight, leakproof shutoff occurs as the heel of the gate shearing edge wedges with a lug in the inlet half of the body. Ample gate length permits re-sharpening.



Bonnetless Design . . . 1) Two-piece body is bolted together and gasketed on a vertical centerline. 2) Stuffing box is an integral part of the body. 3) Packing and one-piece gland completely encompass gate.



Body Shearing Notches... Lower portion of the seat of the outlet half of the body is notched to better distribute the fibers of the pulp stock. This makes it easier for the gate to cut through fibrous material.

WALWORTH

Manufacturers since 1842

valves . . . pipe fittings . . . pipe wrenches

60 East 42nd Street, New York 17, N. Y.

DISTRIBUTORS IN PRINCIPAL CENTERS THROUGHOUT THE WORLD

Bailey Recorder for receiving pneumatic and electric signals.

Measured Variables
% combustibles
combustion
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density
differential
draft
flow
liquid level
% oxygen
pH
position
pressure
ratio
smoke density
specific gravity
speed
temperature
vacuum

Pick any four, plug in, and record

Here is a receiver recorder, custom-built *by you* to meet your needs, no matter how changeable, how complex. On a single chart you can record any four measured variables—and interchangeable receivers permit new combinations almost at will.

Individual plug-in pneumatic or electronic receivers—and corresponding integrators—are interchangeable in the four identical frame slots. You can select any combination; even including two receivers and their two integrators.

Think what this can mean to you! Parts inventories are minimized; re-use of components keeps instrumentation costs economically low when cycle changes are frequent—and you can even tie in with your existing transmitters.

Ask for Product Specification E12-5.

PSB-1

ONLY BAILEY OFFERS ALL THESE ADVANTAGES IN A SINGLE RECORDER

- Pre-calibrated plug-in receiver units
- Up to four pneumatic or electronic receivers —or two receivers and two integrators
- Any four variables on one chart—easily read and interpreted
- A full year's ink supply at one loading
- Faster ordering—from stock
- Minimum inventory of parts
- Minimum instrument investment for process cycle expansion or alteration

BAILEY METER COMPANY

1037 IVANHOE ROAD

CLEVELAND 10, OHIO

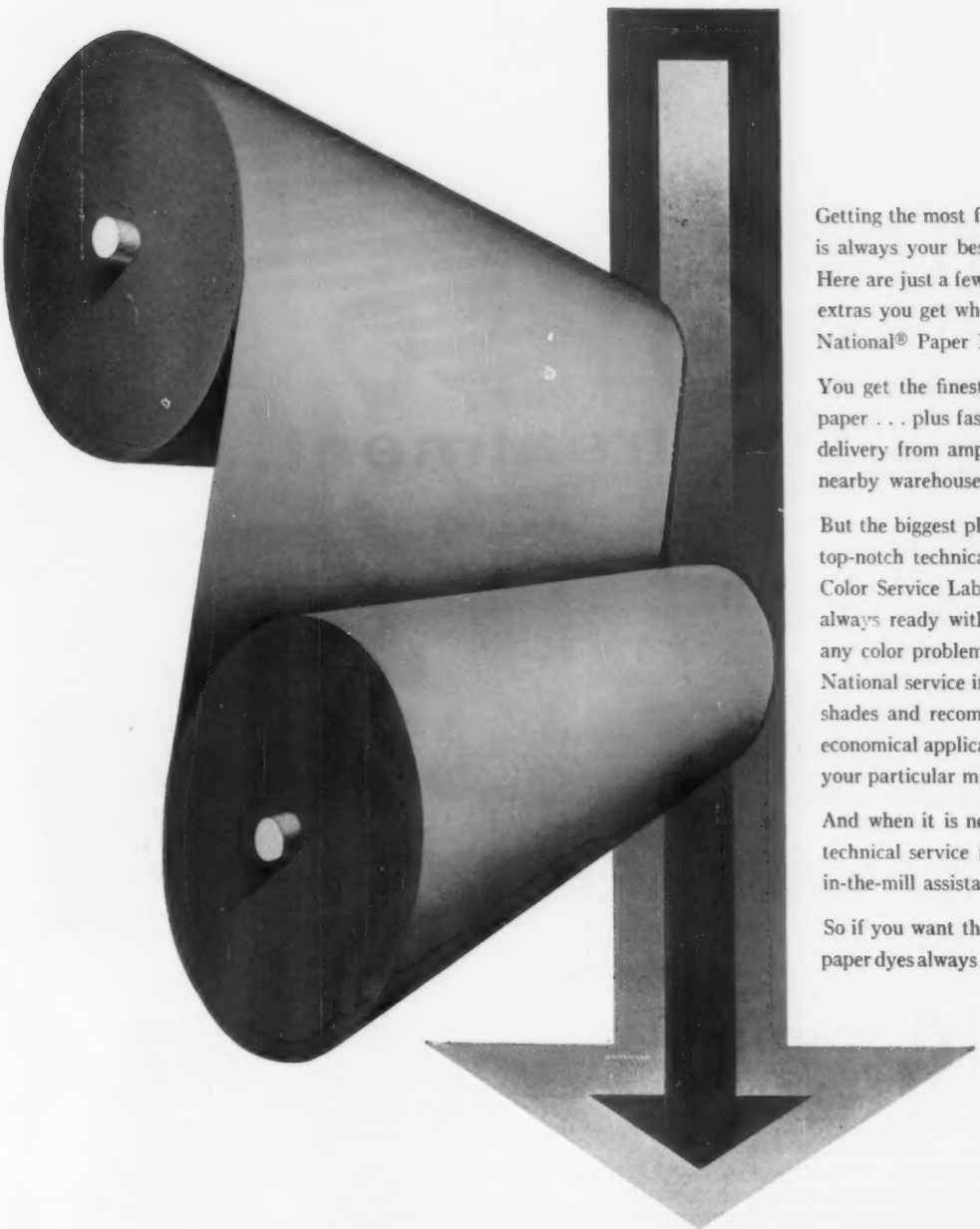
Controls for Power and Process

BAILEY METERS

Controls for

TEMPERATURE
PRESSURE
GAS ANALYSIS
FLOW LEVEL
RATIO DENSITY

ATTENTION: BARGAIN HUNTERS



Getting the most for your money is always your best bargain! Here are just a few of the many extras you get when you buy National® Paper Dyes.

You get the finest colors made for paper . . . plus fast, dependable delivery from amply-maintained nearby warehouse stocks.

But the biggest plus is National's top-notch technical service. Our Color Service Laboratories are always ready with prompt help on any color problem you have. National service includes matching shades and recommending the most economical application methods for your particular mill operations.

And when it is needed, National technical service includes practical in-the-mill assistance as well.

So if you want the top value in paper dyes always call National first!

NATIONAL® PAPER DYES

NATIONAL ANILINE DIVISION
ALLIED CHEMICAL & DYE CORPORATION
40 RECTOR STREET, NEW YORK 6, N. Y.

Boston Providence Charlotte Chicago San Francisco Atlanta
Portland, Ore. Greensboro Philadelphia Richmond Akron
Los Angeles Columbus, Ga. New Orleans Chattanooga Toronto

Allied Chemical

GOT A PROBLEM

in water treatment...

FOR your mill

If your process waters pose problems of clarification... color removal... lime softening... or your boiler waters require hot process softening... ion exchange... demineralization...

...whether yours is an existing or new mill...

...let INFILCO's long experience and familiarity with the pulp and paper industry's needs show you the way to increased profits, greater production efficiency!

...rugged, dependable, accurate chemical feeders and slakers! (Send for Bulletins #215, 217, 250, 350).

...for constant or proportional rate operation!

...clearer water faster, up to 80% savings in space with ...ACCELATOR* clarifiers! (Send for Bulletin #1825).

...soundly designed gravity and pressure filters! (Send for Bulletin #1825).

...ion exchangers and demineralizers! (Send for Bulletin #1960).

ACCELATOR CLARIFIER

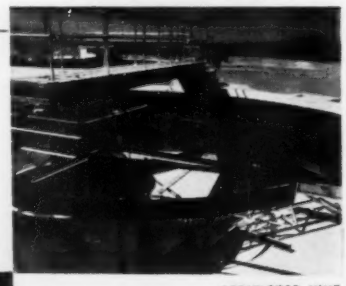
LIME FEEDER & SLAKER

FROM your mill

If suspended fillers, fibres, chemicals create problems of re-use or pollution...

...INFILCO savealls assure you of more profitable operation by reducing your material and heat losses!

...let us tell you about CYCLATOR* treating plants (Bull. #850)
...SEDIFLOTOR* flotation savealls (Bull. #6051)
...INFILCARB anthracite filters for green or white liquors
...simplified causticizing systems
...and many other types of profit-making equipment!



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INFILCO INC.

General Offices: Tucson, Arizona

*The **one** company offering equipment for **all** types of water and waste treatment*

Field Offices throughout the United States and in Foreign Countries

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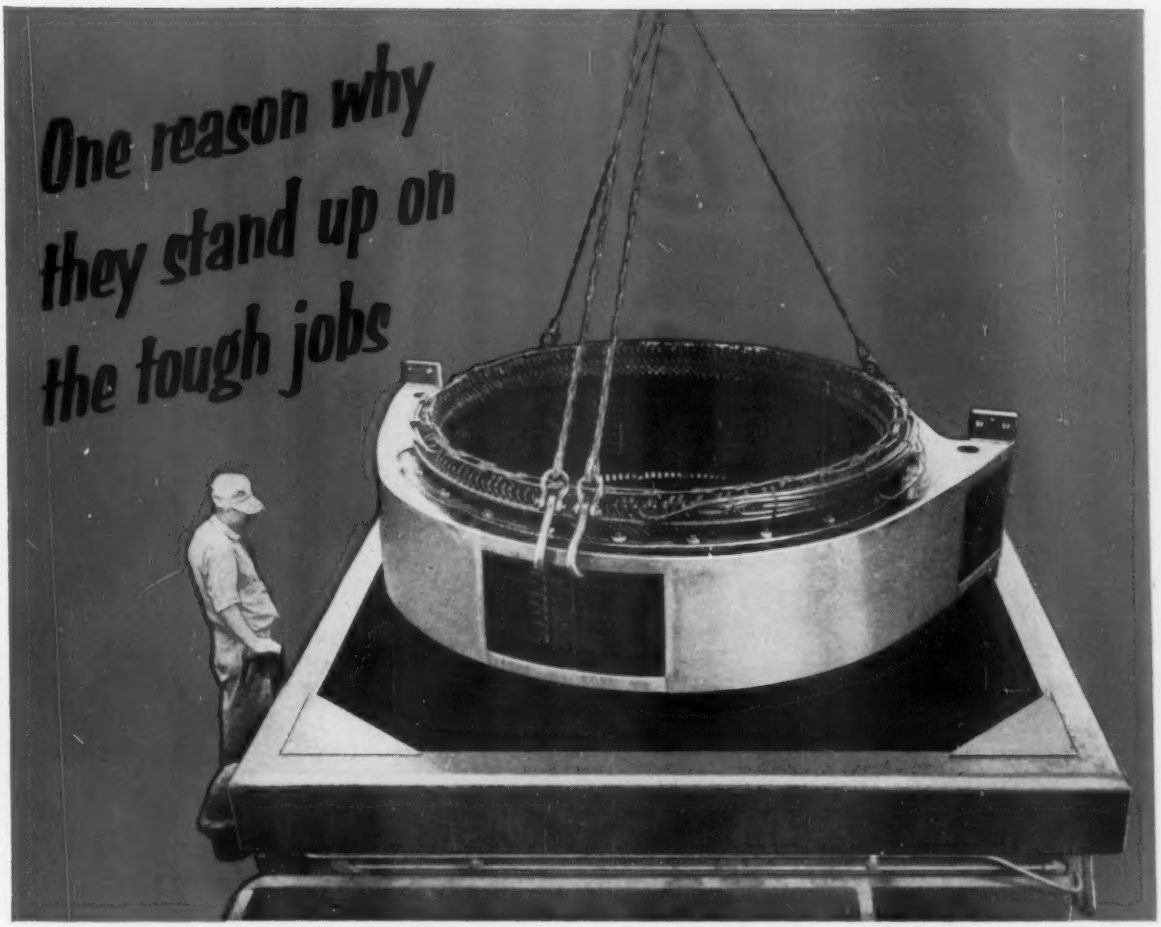
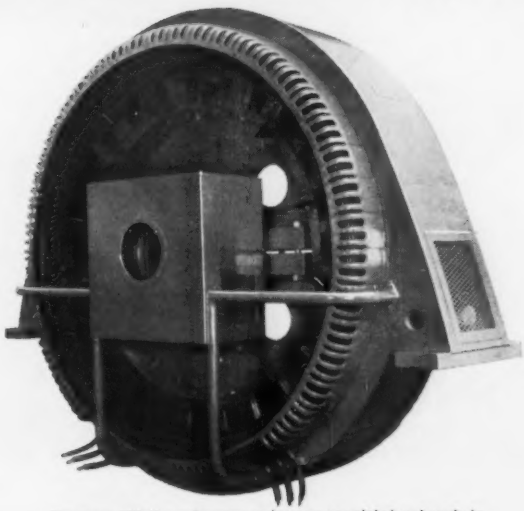
INFILCO 5616

Serving the pulp and paper industry with water conditioning equipment geared to today's competitive conditions!



ELLIOTT SYNCHRONOUS MOTORS



The same Elliott synchronous motor now completed and ready to be shipped to a northeastern chemical plant where it will drive a compressor. Motor is rated at 3500 hp and 300 rpm and has an enclosure over collector assembly for pressure ventilation.

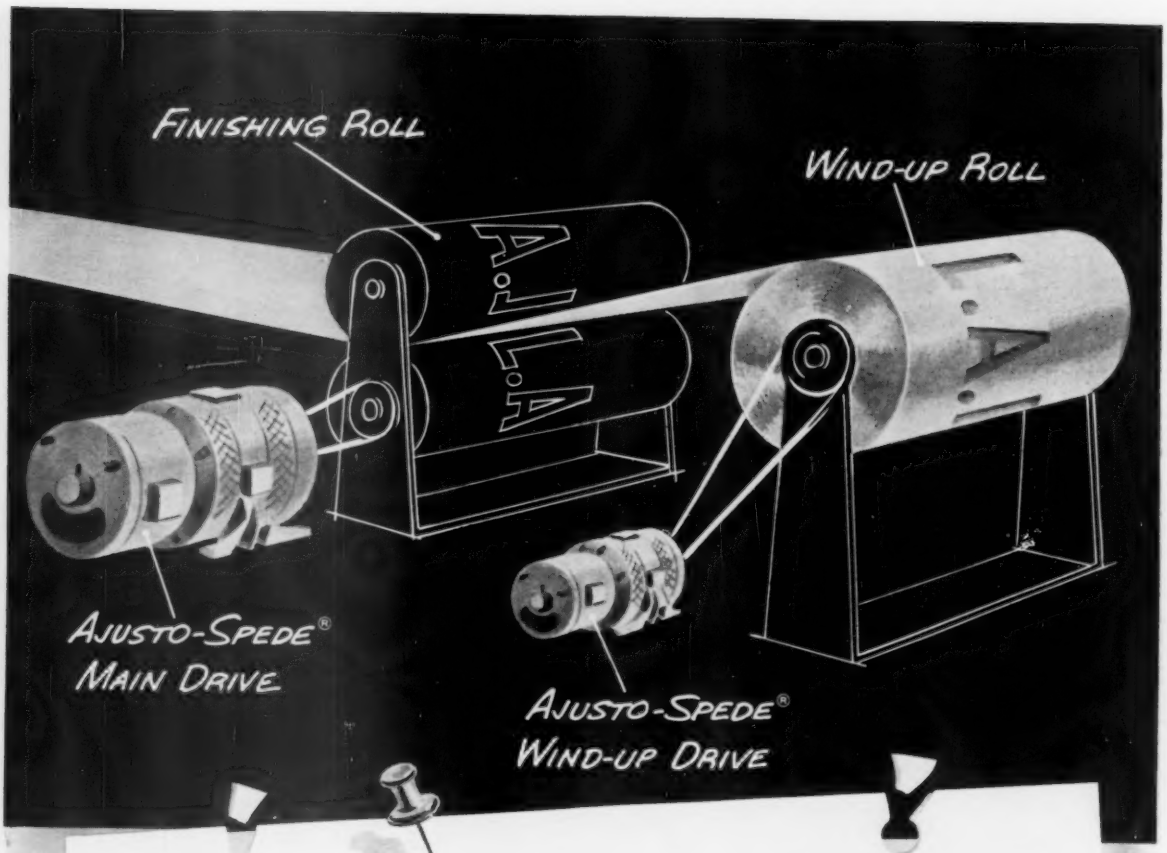
RG-15

A COMPLETE STATOR DIP IN THE INDUSTRY'S LARGEST INSULATING VARNISH TANK is an essential step in the special painstaking coil insulation process for synchronous motors that operate in paper mills, chemical plants, power stations and rubber mills where severe moisture, chemical fumes, abrasive or conducting dust conditions prevail. Unlike the usual spray method of varnish application, complete penetration and coverage is assured by complete immersion. After baking, the coil ends are given two additional dips and bakes to further protect against the entrance of moisture, chemical fumes, dust, etc. Better coil insulation is one of a number of "extras" that help make Elliott synchronous motors first choice for compressor, ball mill, rolling mill, pulp grinder, and many other tough service drives.

Ask your Elliott field engineer for details or write Elliott Company, Ridgway Division, Ridgway, Pa.

ELLIOTT Company

STEAM TURBINES • MOTORS • GENERATORS • DEAERATING HEATERS • EJECTORS • CONDENSERS • CENTRIFUGAL COMPRESSORS • TURBOCHARGERS • TUBE CLEANERS • STRAINERS



Do you have a Wind-up Problem?

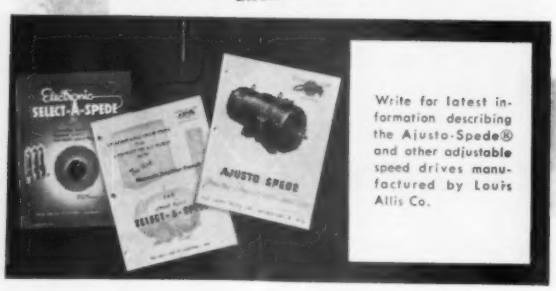
The Louis Allis Ajusto-Spede® Drive gives you the best answer

The Ajusto-Spede® drive has solved many difficult wind-up problems -- has successfully handled a wide range of materials from cigarette paper to steel. Just look at the versatility of this drive -- what it can do for you:

- Linear speed range from 100 to 2000 fpm.
- Roll build-up ratios up to 15:1.
- Tensions from 1/2 lb to 10 lbs per inch of width.

But that's not all. No dancer roll is required. An AC signal generator, mounted on the main drive, corrects for changes in linear speed. A special circuit provides inertia compensation during periods of acceleration or deceleration. Adjustable stalled tension is also provided.

Don't let your wind-up problems throw you. Consult your Louis Allis field engineer -- he has the drive and he also has engineering experience in applying these drives that can help you.

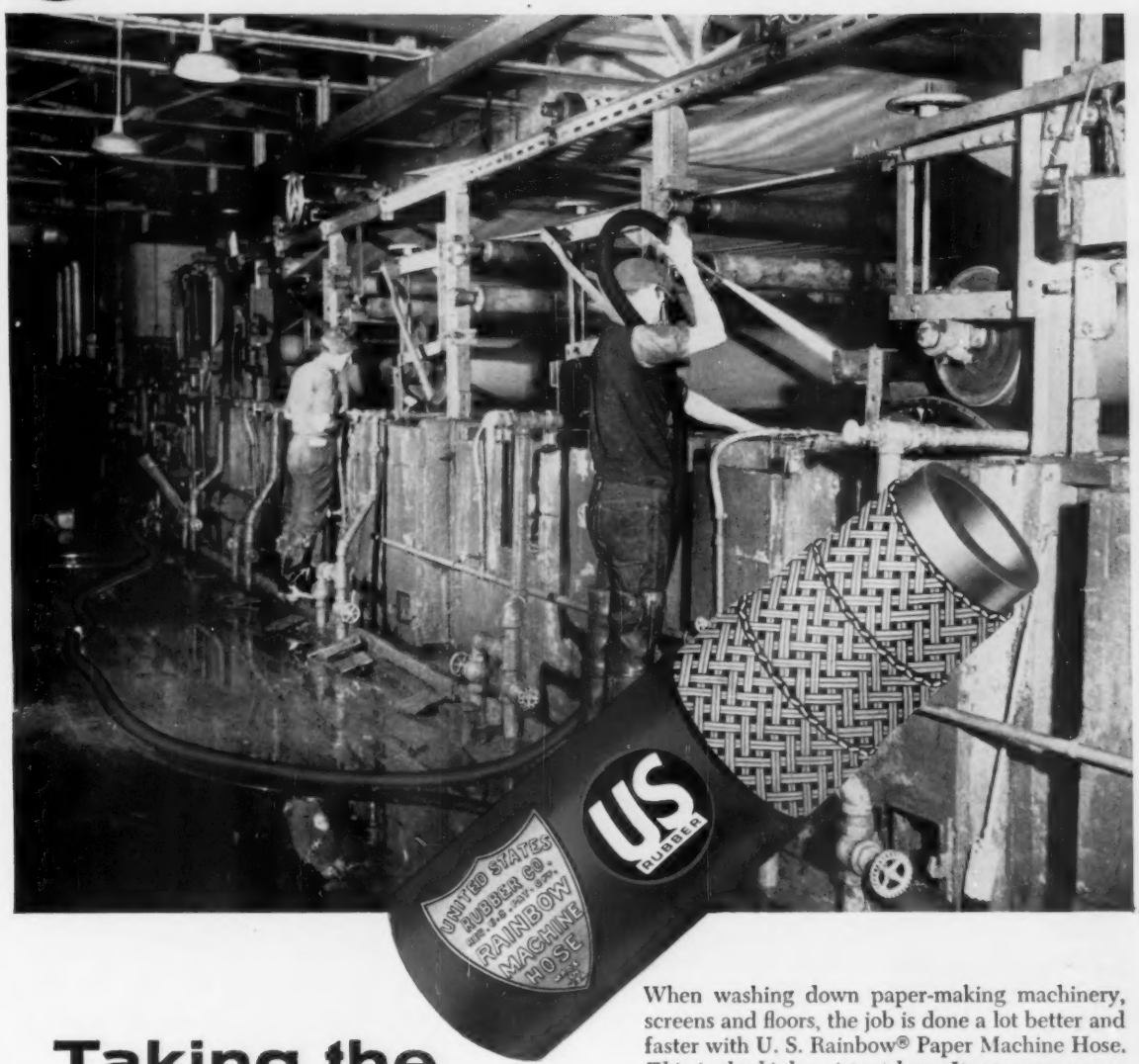


Write for latest information describing the Ajusto-Spede® and other adjustable speed drives manufactured by Louis Allis Co.

AS-102

THE LOUIS ALLIS CO.
MILWAUKEE 7, WISCONSIN

US RUBBER WASHDOWN HOSE



Taking the Kinks out of "Paper Work"

When washing down paper-making machinery, screens and floors, the job is done a lot better and faster with U. S. Rainbow® Paper Machine Hose. *This is the kink-resistant hose.* Its strong carcass, made of famous Ustex® cotton yarn, has the body to prevent kinking and collapsing from supply connections to the nozzle. Yet U. S. Rainbow is light and flexible. Its thick red-rubber cover withstands abrasion when dragged over rough, gritty floors or around machinery. Integrally built-in duck and rubber nozzle prevents damage to screens and other equipment.

This premium quality hose is available at any of the 28 "U. S." District Sales Offices, at selected distributors, or write U. S. Rubber, Mechanical Goods Div., Rockefeller Center, New York 20, N. Y.

Watch NCAA football, Saturday afternoons, NBC-TV

US RUBBER Mechanical Goods Division

United States Rubber

No matter what else you do to produce better paper *at lower felt cost per ton*

...TALK TO YOUR HUYCK FIELD SERVICE ENGINEER FIRST!

The well-known Huyck Felt Measuring Wheel. First developed in 1928, it is considered the most accurate means of checking the operating length of a felt and tensile stress under which it performs on a machine.

Searching for ways to cut felt cost and improve production? We suggest: ONE — talk to your Huyck Field Service Engineer about your felt and papermaking problems . . . taking full advantage of his wide and varied experience. TWO — have him survey your mill . . . using the most *advanced* precision instruments to check his conclusions.

For example, the widely used Huyck Felt Measuring Wheel, enables him to establish operating conditions that make for best felt performance and improved machine operation. It accurately indicates the operating stretch of a felt, or tensile stress under which it performs on a machine . . . and provides information that has an important bearing on felt design and service life.

The Huyck engineer assigned to serve you is a member of the largest, best trained and equipped field service staff in the felt industry. His job is to assist you in producing better paper more economically.

NEW!

HUYCK FELTS

FIRST IN QUALITY . . . FIRST IN SERVICE

F. C. HUYCK & SONS • Established 1870

Rensselaer, New York • Alicoville, Alabama

Peterborough, New Hampshire • Cavendish, Vermont

IN CANADA: KENWOOD MILLS LTD.

Arnprior, Ontario • Established 1918

ANNOUNCING...

The Tennessee Corporation, miners of Sulfur Bearing Ores, announces another Basic Sulfur Chemical, **T C HYDRO** for the Southern Pulp and Paper Industry.

SODIUM HYDROSULFITE

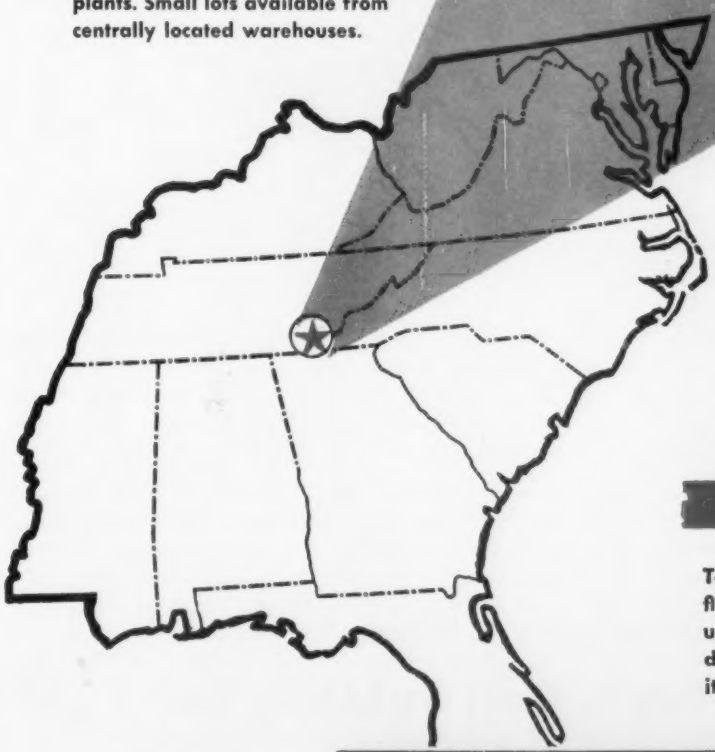
T C HYDRO

TENNESSEE CORPORATION

CONCENTRATED

SERVICE

Located in the heart of the Southern Pulp and Paper Industry, we are in a position to give overnight truck-load service to most of the Southern Pulp and Paper plants. Small lots available from centrally located warehouses.



DEPENDABILITY

Long a trusted source of Sulfuric Acid, Sulfur-Dioxide and other chemicals for the pulp and paper industry, we are utilizing our know-how and basic position in Sulfur chemistry to produce another quality product for the pulp and paper industry.

QUALITY

T-C HYDRO is a dry, white, free flowing crystalline powder of uniform size and structure. It is dust free assuring higher stability and uniformity.

Phone, wire or write for literature and test samples if desired.

TENNESSEE CORPORATION

617-639 Grant Building, Atlanta, Georgia

SULPHUR

helps to create

headline products

URANIUM

Ore milling specialists have settled upon acid leaching as the most practical and economical way to extract uranium values from ore concentrates. And as with so many other ore-leaching processes, sulphuric acid appears to be the best of the solvents, considering costs and availability.

So chalk up another 'headline' end-use for this most widely used of all acids! But this very broadening demand for sulphuric emphasizes the problem facing producers of the basic element SULPHUR. Search for new commercial sources goes on without let-up all over the world. This company is playing a leading role in this search.

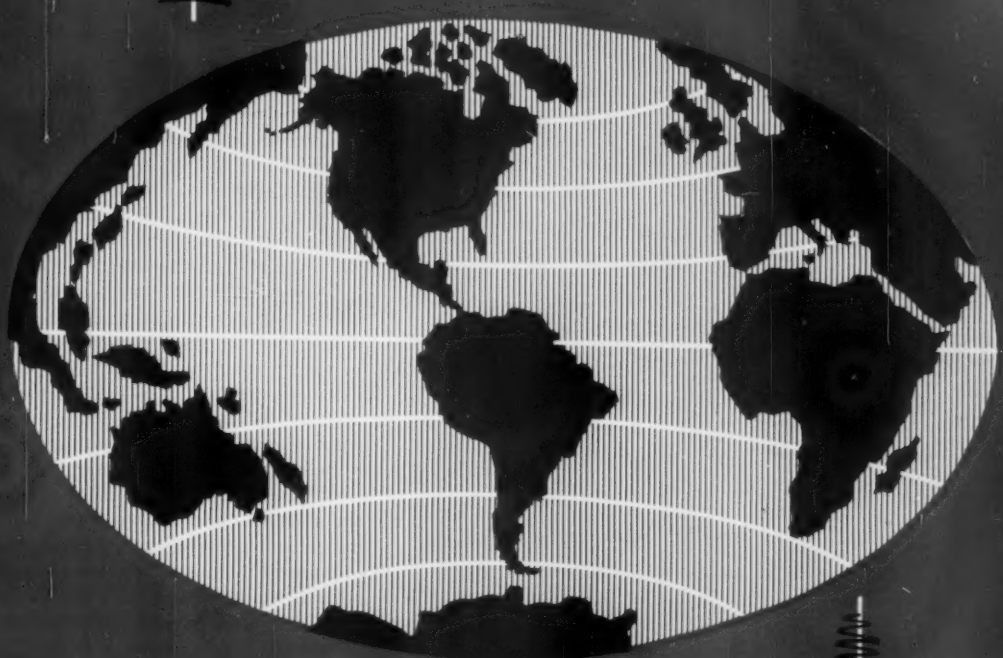
Texas Gulf Sulphur Co.

75 East 45th Street, New York 17, N.Y.

Sulphur Producing Units

- **Newgulf, Texas**
- **Spindletop, Texas**
- **Moss Bluff, Texas**
- **Worland, Wyoming**

WOOD PULP
PAPER



Offices and representatives in 60 cities in the United States, Europe, Latin America, Africa, and Asia

BULKLEY DUNTON & CO., INC.
BULKLEY DUNTON PULP CO., INC.
BULKLEY DUNTON PULP CO., LTD.—LONDON
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BULKLEY DUNTON CELLULOSE EXPORTS, INC.
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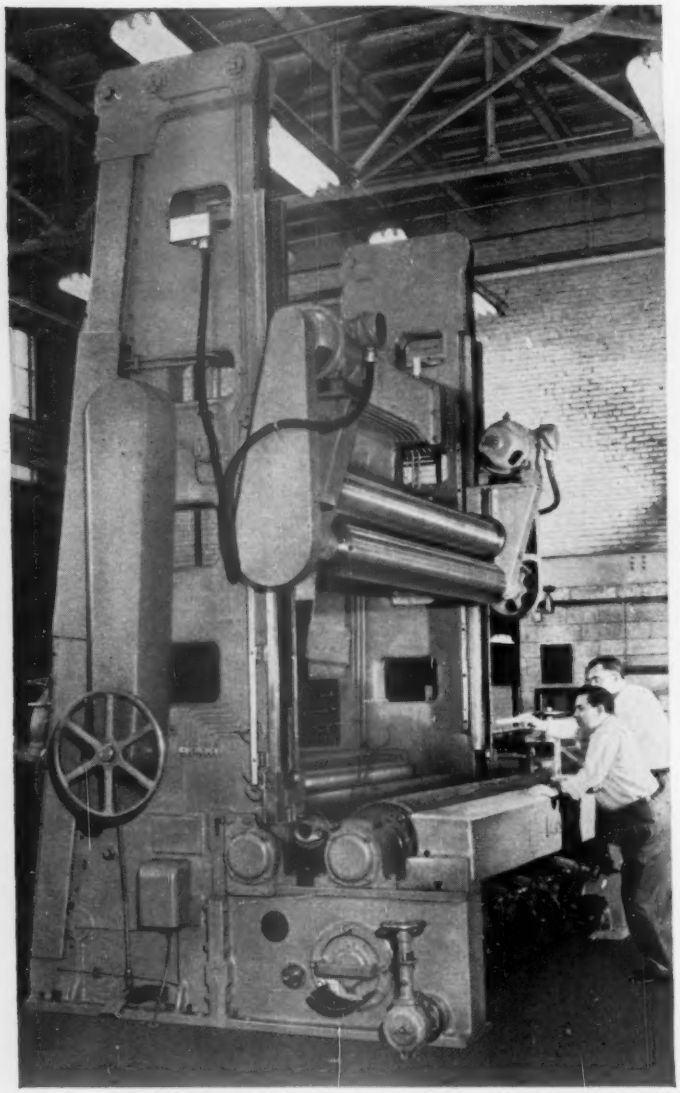
In New England—CARTER RICE STORRS & BEMENT

BULKLEY-DUNTON
ORGANIZATION
295 MADISON AVENUE, NEW YORK 17, N.Y.



Standard design **Langston Slitters & Winders** adapt easily for special application

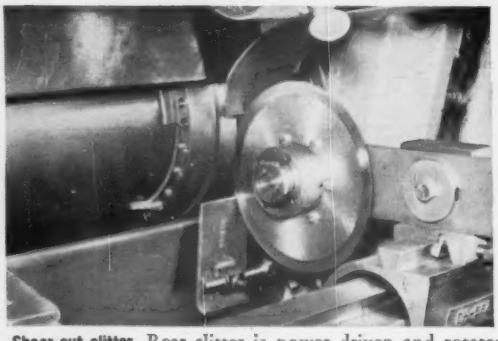
Here's a Langston Slitter & Winder recently installed at the St. Regis Paper Co. mill at Pensacola, Fla., to wind extremely heavy board. The maximum trim is only 92 in., but the weight of the board and the diameter of the rewound roll demanded a machine of unusual stamina.

The machine indicated was the Langston Model DH with certain special features: 18-in. diameter drums and idlers that guard against checking of the heavy board, hydraulic roll ejector, automatically controlled air brakes on main drums and idler rolls.

Density of the roll can be held constant all the way from the beginning of the wind, largely as a result of a newly designed hydraulic control of the pressure roll. Starting at a preset value, rider roll pressure is gradually reduced as the rewound roll builds up in diameter, thus automatically compensating for its increased weight.

Roll density is further controlled by independent, variable-speed motors at each end of the rider roll. D-c ammeters and tachometers indicate rider roll tensioning effort.

Langston Slitters & Winders are available in sizes to 196 in. wide and 72 in. dia. Speeds to 4000 fpm and beyond. Write SAMUEL M. LANGSTON CO., Camden 4, N.J.



Shear-cut slitter. Rear slitter is power driven and rotates front slitter by friction. Paper passes between and is actually sheared by the action of the two knives. This means cleaner edges, cleaner paper rolls, cleaner plant.

Setting the slitters. Operator has free access to power-driven slitter knives from either rear or front of machine. Here he measures trim slitter for position. Notice also the 18-in. idler roll beneath his hand and the ejector roll hydraulic mechanism over his left shoulder.

LANGSTON *Leadership...by design*

SHEAR CUT CLEAN CUT

For an excellent MOISTURE BARRIER coat with PETROTHENE®

POLYETHYLENE RESIN

Details on Back

Polyethylene because of its low cost, high water vapor resistance, and excellent heat sealing properties, is becoming more and more popular for moisture barrier applications. It coats practically everything used for flexible packaging of industrial or consumer items. It adheres tightly to papers, fabrics, films and foils. It adds strength, too.

Petrothene paper coating resins have these advantages over many other polyethylenes . . .

- ✓ **HIGHER PRODUCTION RATES**
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Want to learn more about Petrothene? Mail the coupon below.

Polyethylene coatings add strength and moisture resistance in packaging

- chemicals
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I would like more information on PETROTHENE Polyethylene.

My application is _____

Please ☐ send literature

☐ ask a technical representative to call.

NAME _____

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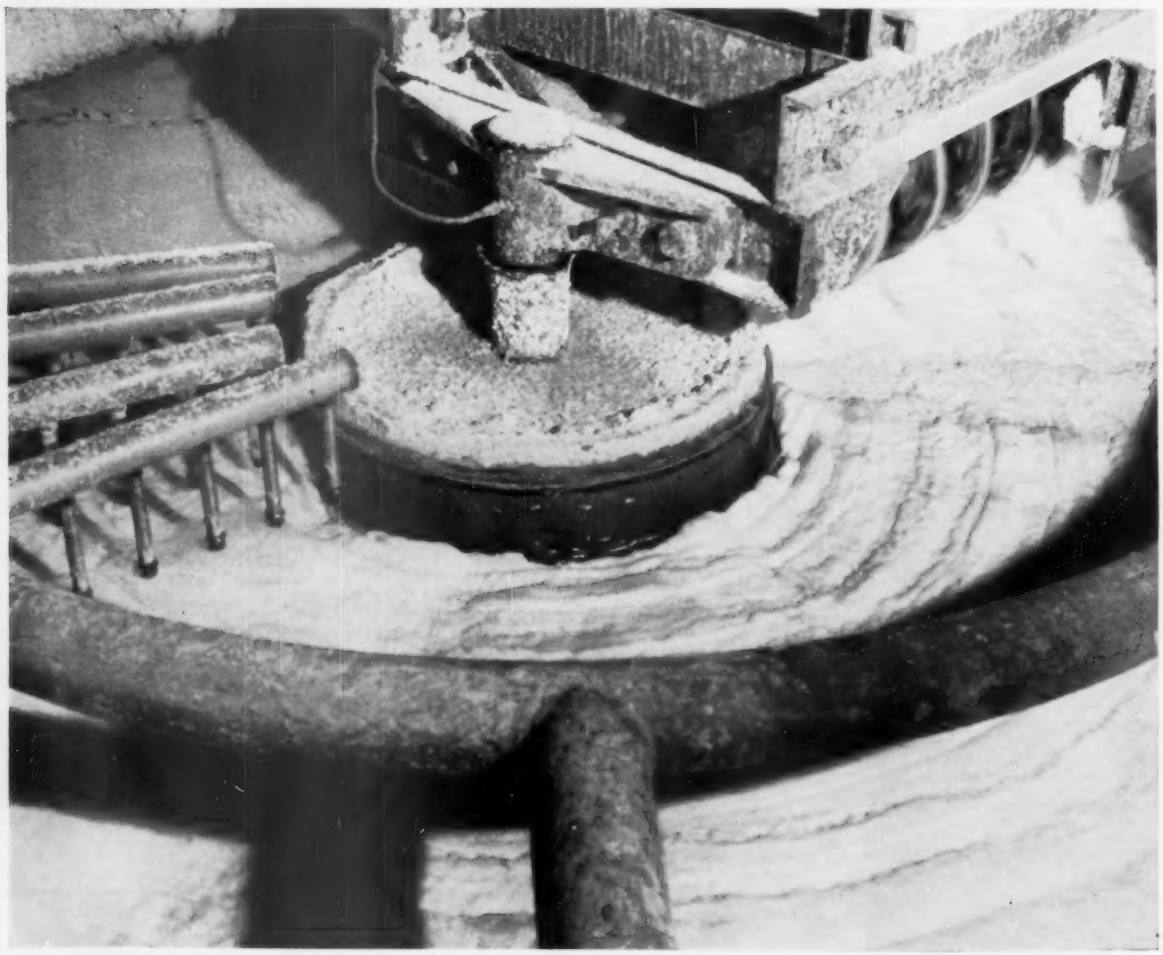
West End doubles capacity of salt cake plant

Acceptance of West End Salt Cake has spread so rapidly that we are enlarging our plant to produce over 100,000 tons a year. Even at this rate we are tapping less than 50% of our natural raw material supply. This output and reserve provides industry with a dependable source of highest quality salt cake to serve its growing needs. Samples, prices and freight schedules will be submitted gladly on request.



WEST END **West End Chemical Company**

SODA ASH • BORAX • SODIUM SULFATE • SALT CAKE • HYDRATED LIME

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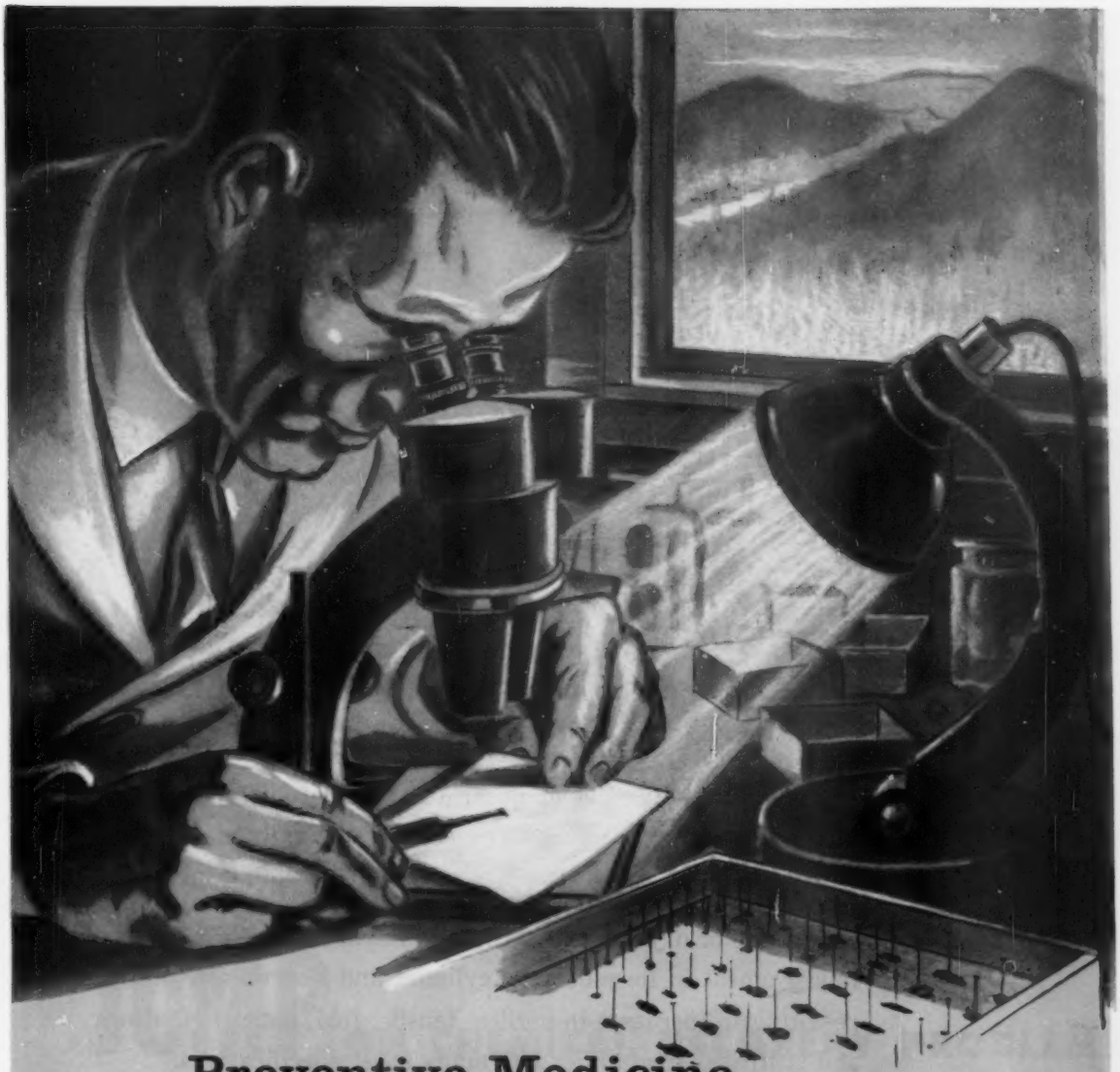
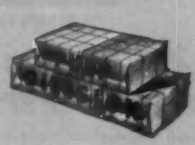


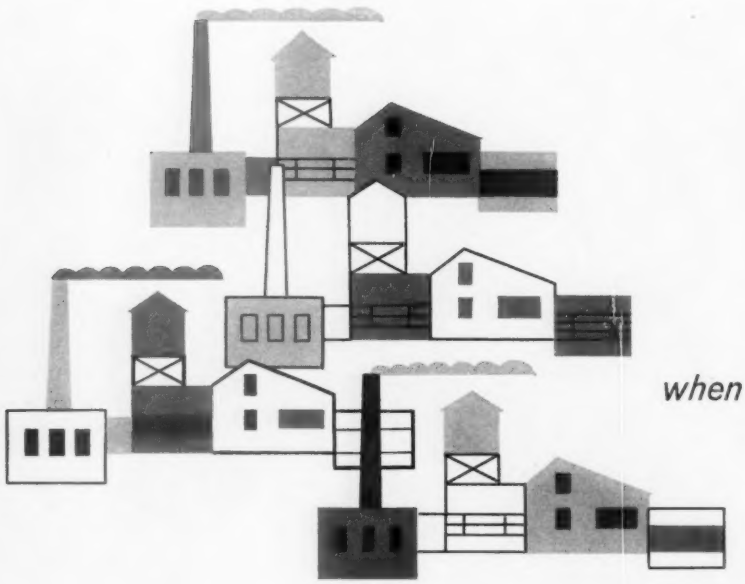
Preventive Medicine

Trees mature, rot, and die in an unmanaged forest. Insects and fire destroy millions of acres of forest annually at more than a billion dollar cost. Bringing death to trees and wildlife, insects and indifference are enemies with which to be dealt.

Weyerhaeuser Timber Company in 1941 initiated preventive medicine in the form of Tree Farms—privately owned lands dedicated to continuous growth of forest crops. On Tree Farms, vigorous protective measures are carried out against forest insects, diseases, and fire. Preventive medicine administered by enlightened management of timberlands insures a constant supply of pulpwood for generations yet to come.

WEYERHAEUSER





when it comes to quality—

WHY DO MORE MILLS USE MORE LYCOID® THAN EVER BEFORE?

The Answer—In the demanding test of day-to-day paper and board production, LYCOID, the Stein Hall family of galacto-mannan gums, proves conclusively its unique advantages.

Low levels of dry or cooked addition impart striking improvement in formation on cylinder and Fourdrinier machines, resulting in increases in mullen, tensile, fold, erasure, Concora and stiffness, printability and many other specifications.

You Profit Two Ways—As marked increases in quality are achieved, so are the resultant economies through reduced refining loads and increased machine speeds.

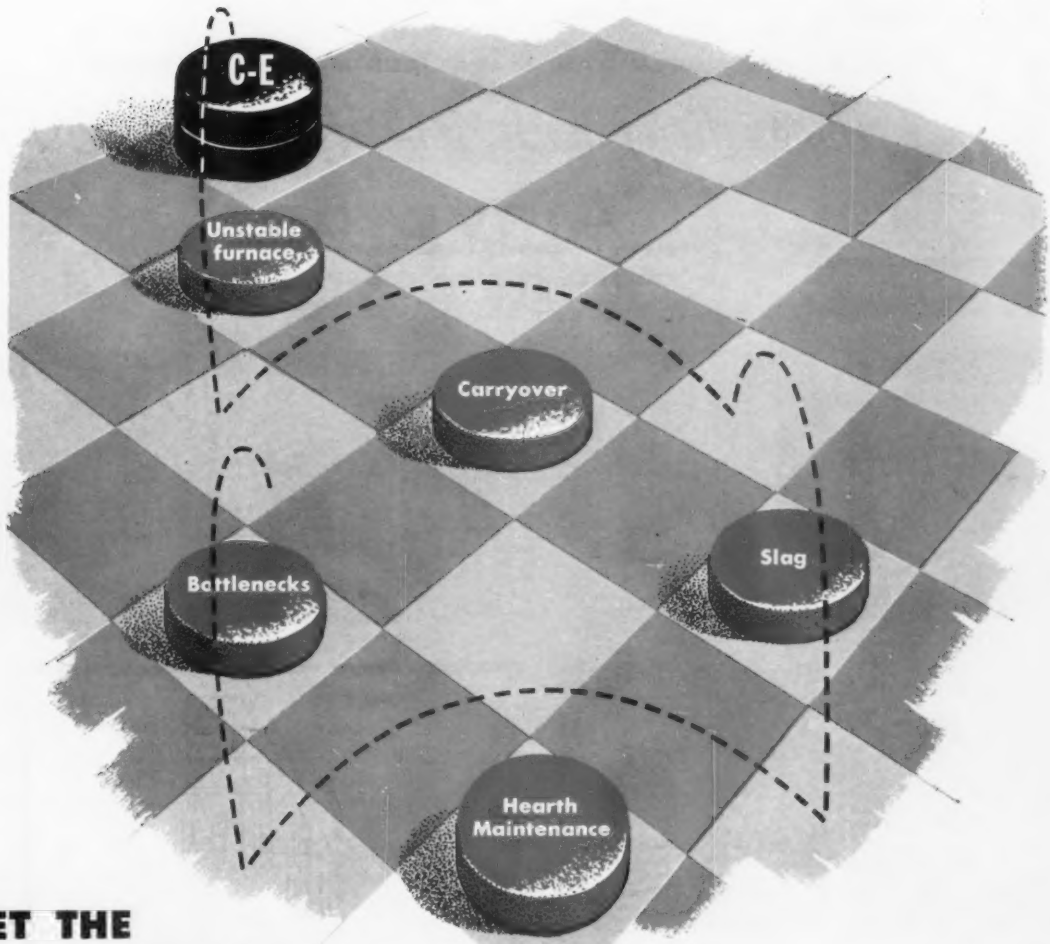
For Proof—Learn more about the advantages of LYCOID. For samples or further information write the Paper Mills Dept.

STEIN HALL

285 MADISON AVENUE NEW YORK 17, N. Y.

ESTABLISHED 1866

Branch offices in 17 U. S. cities and Canada



GET THE JUMP ON CHEMICAL RECOVERY PROBLEMS WITH A C-E RECOVERY UNIT

Unstable furnace conditions are "checked" by C-E's system of suspension drying combined with an exclusive system of liquor density control assuring uniform liquor feed of maximum density.

The result? Uniform fuel bed — consistently high reduction performance.

Carryover of ash and unburned combustibles is minimized by the exclusive C-E system of tangential secondary air admission. Complete, intimate fuel-air mixtures make for best combustion.

The result? Efficient burning and a cleaner boiler.

Slag is no problem with the C-E panel type superheater with widely spaced elements. Each element consists of a solid wall of tangent tubes which allows no foothold for slag.

The result? Cleaner superheater surface, uniform gas flow, less steam needed for soot blowing.

Hearth Maintenance is eliminated with the C-E decanting hearth design. A layer of chilled smelt covers the water-cooled furnace floor and molten smelt leaves the furnace without contacting hearth refractory or tubes.

The result? No more "downtime" for hearth repairs.

Bottlenecks in production are avoided by the conservative C-E design which, when teamed with a standard electrostatic precipitator, allows a greater range of operation at much lower cost.

The result? Greater overload capacity, less power consumption, minimum stack losses.

To get the Jump *on* Your *chemical recovery problems* — See C-E!

COMBUSTION ENGINEERING

B-894

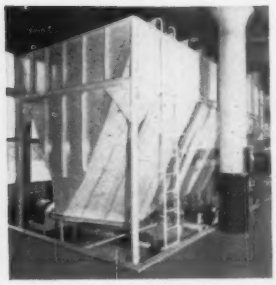
Combustion Engineering Building
200 Madison Avenue, New York 16, N. Y.
CANADA: COMBUSTION ENGINEERING-SUPERHEATER LTD.

IS AN OBSOLETE RAW MATERIALS-MOVING METHOD

Throttling Your Plant's Efficiency?

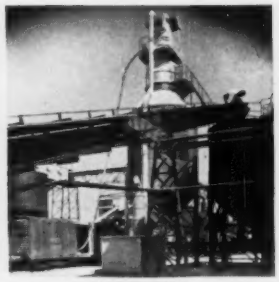
The AIRVEYOR®

IS FASTER, CLEANER, SAFER, CHEAPER

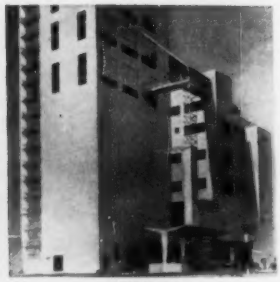


BAKERY

FEED MILL

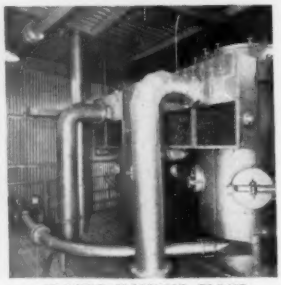


PAPER MILL

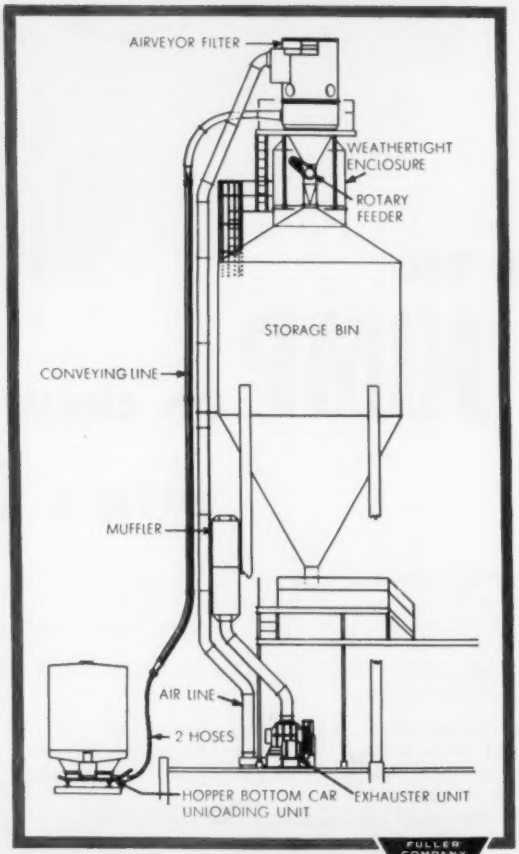


BREWERY

TEXTILE PLANT



PLASTIC MOLDING PLANT



Facts are hard to beat and it's a fact that bulk materials-moving—from cars or trucks to storage . . . and on to process—is a vital part of your operation, demanding top efficiency if your production is to be maintained or increased. The system(s) you are now using may be taking a costly annual toll in lost time, lost production and excessive maintenance. Take a good, close look and you may be surprised to find that your materials handling operation is now, or is becoming a bottleneck—the slowest ship in your production convoy.

If you handle raw chemicals, bakers' ingredients, brewers' grains or other materials of similar consistency, you'll be interested in the facts about Airveyor, the Fuller system that has put air to work in hundreds of installations across the country and Canada.

Fuller experience in harnessing air to move dry materials spans more than a quarter of a century and covers the widest variety of applications. Take the first step toward putting this experience to work for you by letting us make a study of your operation. It costs nothing and may well light the way to greater production at less cost.

FULLER COMPANY
128 Bridge St., Catasauqua, Pa.
A SUBSIDIARY OF GENERAL AMERICAN TRANSPORTATION CORP.
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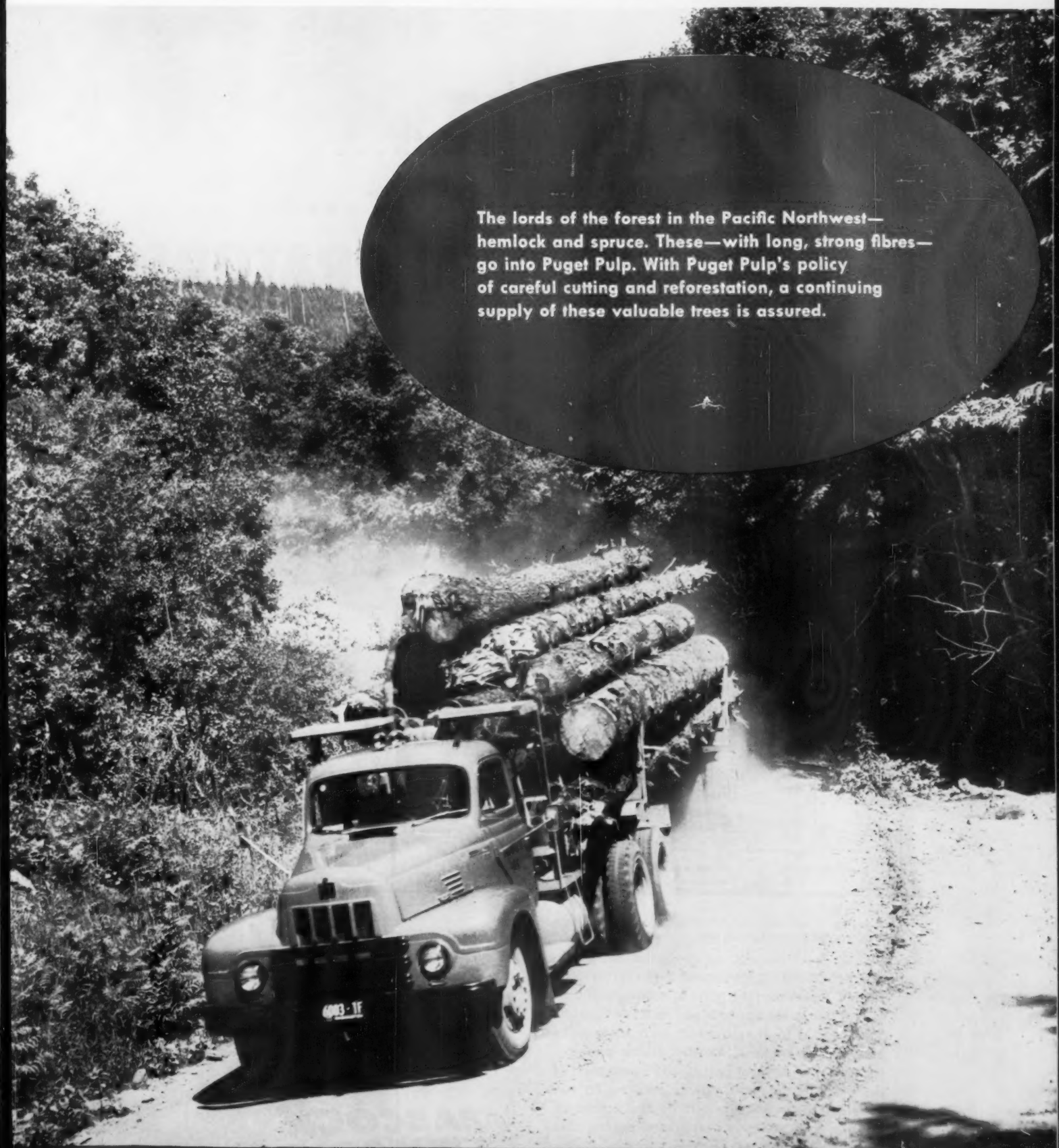
FULLER COMPANY GENERAL AMERICAN TRANSPORTATION

Fuller
. . . . pioneers in harnessing AIR

A-210
3012

Only the Best goes into Puget Pulp

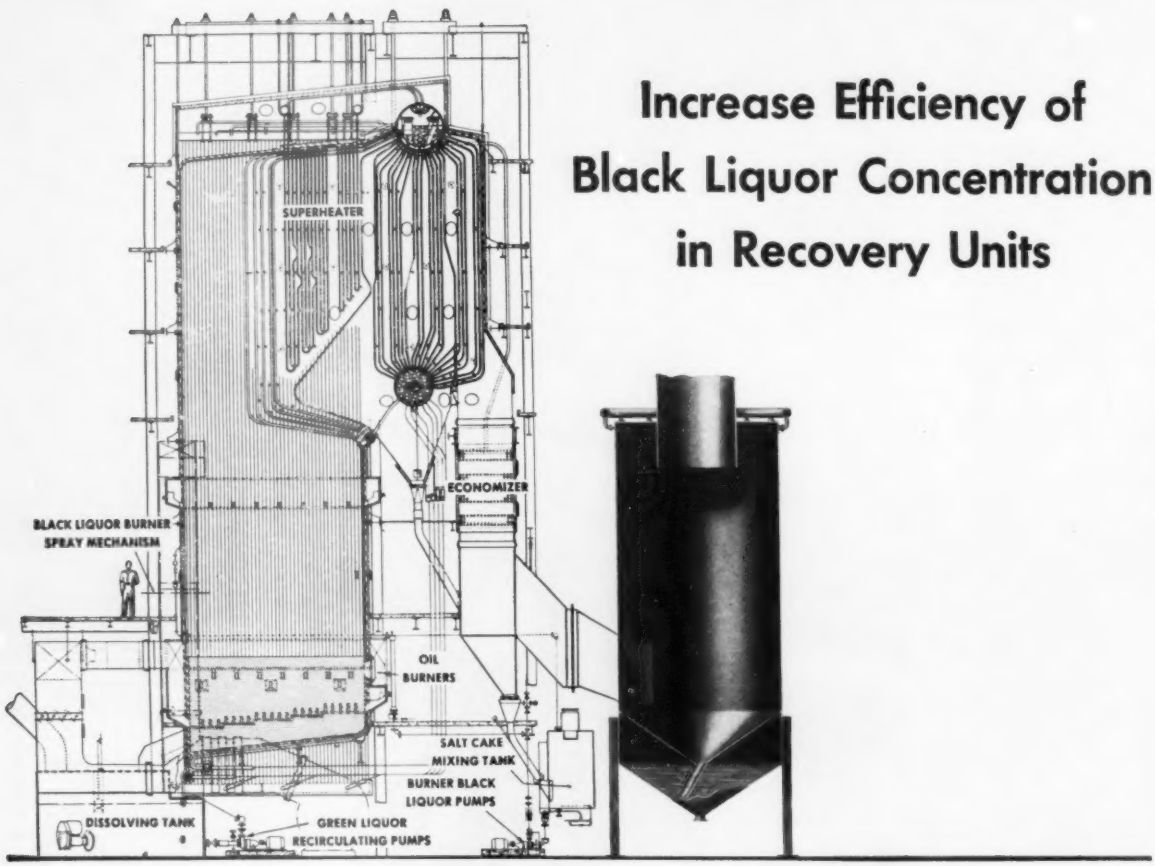


The lords of the forest in the Pacific Northwest—hemlock and spruce. These—with long, strong fibres—go into Puget Pulp. With Puget Pulp's policy of careful cutting and reforestation, a continuing supply of these valuable trees is assured.

PUGET SOUND
PULP AND TIMBER CO.
BELLINGHAM, WASHINGTON

High Availability . . .
No Moving Parts . . .
No Carryover . . .

B&W CYCLONE EVAPORATORS



Increase Efficiency of Black Liquor Concentration in Recovery Units

The B&W Cyclone Evaporator utilizes the heat in flue gases to concentrate liquor solids being processed in the liquor recovery system. It requires no moving parts to accomplish this.

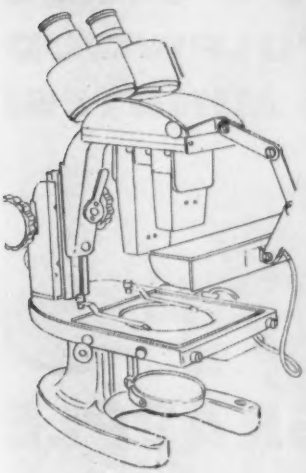
Hot flue gases are brought into the Cyclone Separator at high velocity in such a way as to give them a cyclonic motion. Black liquor is sprayed in at several points; the inner shell of the cylinder is continuously washed by the droplets thrown against it by the action of the gas, and water is evaporated during this process. Droplets fall by gravity to the bottom, where they are collected. They then go to the recovery furnace.

Dependable, continuous service is essential in all parts of the recovery unit. B&W Recovery Units, with B&W Cyclone Evaporators, have proved their value for efficient chemical and heat recovery with low-cost operation. The Babcock & Wilcox Company, Boiler Division, 161 East 42nd Street, New York 17, N.Y.

BABCOCK & WILCOX

BOILER DIVISION

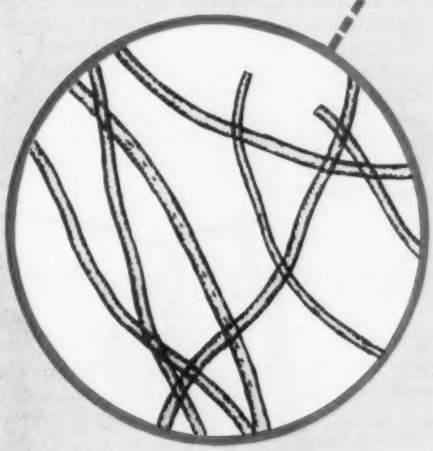
P-800



Do Treatments IMPROVE Felt Performance?

When special conditions existing on paper machines cause unusual or accelerated felt deterioration, it is possible to reduce the degradation or eliminate it entirely. In most instances, special treatments can increase the life of woolen and synthetic felts. Treatments, like felts, must be soundly engineered, however. The specified advantages of any treatment are not automatically effective in every case.

Differences in machines and the conditions under which they operate, variations in temperature, water, the chemical content of the pulp, and many more factors cause a wide variance between conditions which may appear similar on the surface. A careful technical analysis of the conditions involved in each individual case of felt deterioration is necessary, before a treatment can be correctly recommended. Lockport Felt Sales and Technical Service Representatives are fully qualified to make such case studies in cooperation with paper mill personnel. Their recommendation, backed by Tenax Research and Engineering, is available without obligation of any kind.



Enlarged View of TREATED Felt Fibers. Subjected to long-continued washing in water, plus biological degradation and extreme abrasive wear tests, these woolen felt fibers retain their unimpaired individual strength and configuration, thus insuring continuing performance as designed.

Enlarged View of UNTREATED Felt Fibers. Having undergone the same series of tests as the treated fibers, the untreated wool fibers lose their cuticle, or outer skin, and the individual fibrils become separated. The result is a virtual destruction of tensile strength and resilience, with an increased tendency of the felt to mat and fill up.

TENAX FELTS

LOCKPORT FELT COMPANY INC.

Serving the Paper Makers Since 1891

NEWFANE, NEW YORK STARKVILLE, MISSISSIPPI

With the flick of the wrists

. . LOADS 3 CORDS OF PULPWOOD IN 6 MINUTES!

CHECK THESE EXCLUSIVE HOPTO FEATURES

- Variable speed swing control turns boom through 307°.
- Double relief valve in swing circuit cushions boom swing for faster, safer operation.
- Full 18-foot clearance with a quarter cord of 8-foot pulpwood.
- Heavy-duty hydraulic system with double wire braided hoses and heavy-duty pipe fittings on all high pressure lines.
- Built-in relief valve in 1500 PSI system.
- All controls conveniently located for operator. Boom is never over or above operator.
- Highly mobile. Mounts on any one-and-a-half ton or larger truck!
- Long reach! Maximum surface reach on ground line is 17 feet, 15 feet at 12-foot height. All measurements from boom mounting.
- Positive power on Grapple and positive down pressure assures full grapple every time.
- Grapple available for both 8 foot and 4 foot length pulpwood.

HOPTO

Completely Hydraulic **LOG GRAPPLE**

HOPTO BREAKS THE HANDLING BOTTLENECK

Conveniently located face-forward levers actuate every movement of this work-hungry grapple! HOPTO mounts on any one-and-a-half ton or larger truck . . . gives you a highly mobile, *low-cost* unit. Operator levels HOPTO on individually operated hydraulic outriggers from his regular operating position. Set-ups are quickly and conveniently made for safe operation.

30 SECOND LOADING CYCLE!

HOPTO reaches out 15 feet beyond boom mounting to take quarter-cord bite from largest truck or gondola, quickly swings up to 307°, and returns for another load, *all in 30 seconds!* HOPTO loads as many as seven railroad cars in a single day! It's the fast-cycling, completely hydraulic unit. Exclusive HOPTO safety engineered features and ease of handling recommend it as the low-cost pulpwood handler.

WRITE TODAY for complete information!

MANUFACTURED BY

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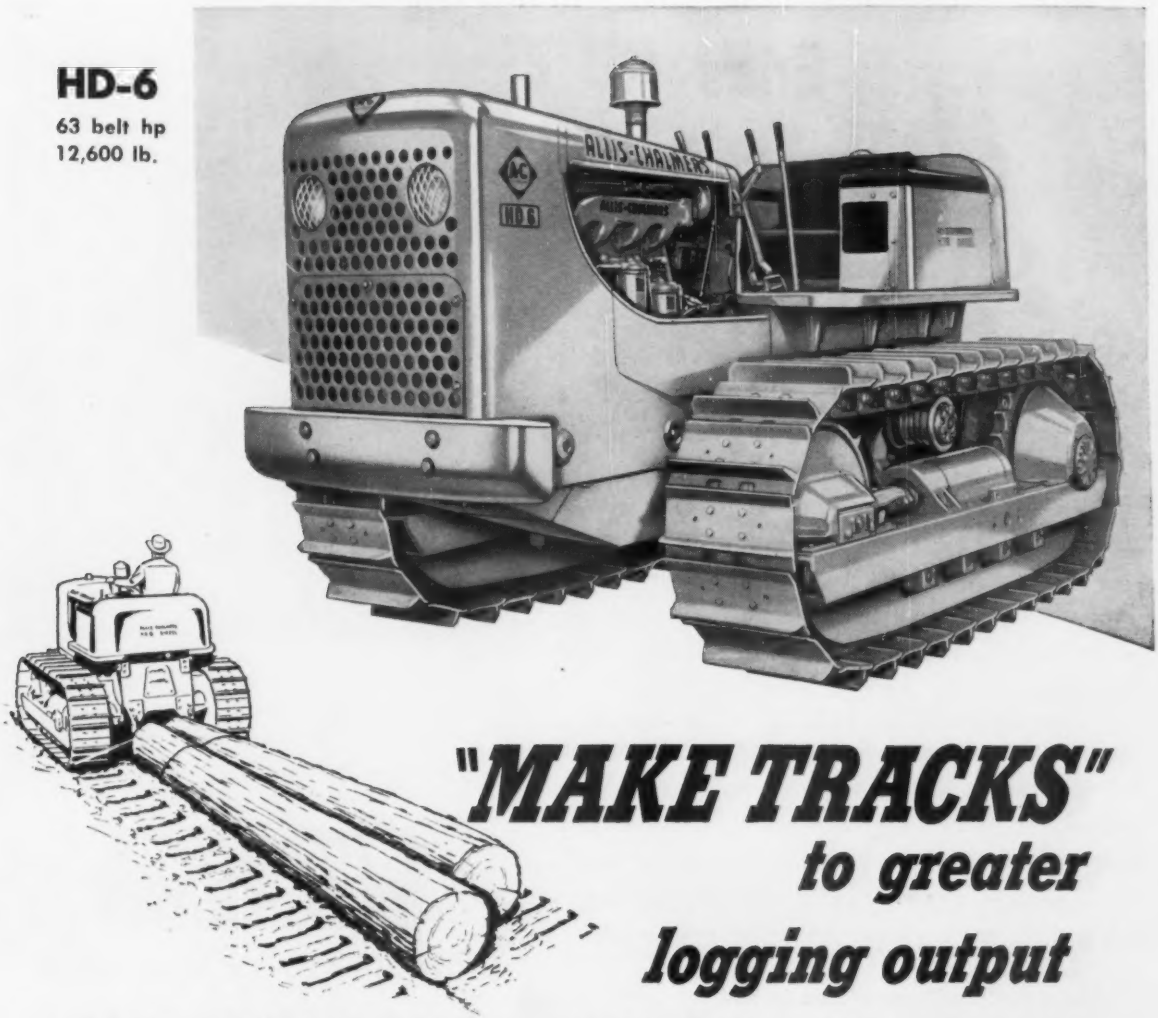
HD-6

63 belt hp
12,600 lb.



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with the modern design features of the Allis-Chalmers HD-6 crawler tractor

Here's more of everything you want in a logging tractor to keep producing more on your operation. Allis-Chalmers HD-6 crawler tractor gives big, steady output *with* dependability . . . long life *with* less servicing. You get these profit-making benefits on every type of logging job . . . snaking logs in muddy swamps . . . logging rough terrain . . . cutting access roads . . . clearing landings . . . decking logs, and many other jobs.

Here's why. *Only* the HD-6 gives you this combination of tested and proved advanced basic design features:

- **double-reduction final drives with straddle-mounted gears give greater ground clearance, more working strength, positive alignment and longer gear life.**
- **all-steel, box-A main frame soaks up shocks . . . cradles and protects the engine, clutch and transmission, does not use them as structural members.**
- **Allis-Chalmers diesel engine with follow-through combustion burns fuel more completely . . . eliminates combustion knocks and shock loads to engine parts . . . lengthens engine life and reduces maintenance.**
- **1,000-hour lubrication intervals for truck wheels, idlers and support rollers eliminates morning maintenance . . . puts the HD-6 on the job 30 minutes sooner every day.**
- **Unit construction takes the "major" out of "overhaul" . . . lets you remove engine, clutch, transmission, final drives, steering clutches independently without disturbing adjacent assemblies.**

Get the full story on the HD-6 . . . find out how it can give you more output with less maintenance. See your Allis-Chalmers dealer now.

ALLIS-CHALMERS, CONSTRUCTION MACHINERY DIVISION,
MILWAUKEE 1, WISCONSIN

ALLIS-CHALMERS

How Bucyrus-Erie's Close Attention to Quality Pays Off in the Woods

Close attention — during manufacture — to the little things that mean outstanding quality . . . that's the basis for the fine performance you get in the woods with Bucyrus-Erie cranes. Take the steels they're made of, for example. To the naked eye there is very little difference, in comparison with other machines. But a microscopic examination of vital parts would show the many important *little* differences that together make such a *big* difference in performance on your jobs.

At Bucyrus-Erie, hammer forging, annealing, heat treating, case hardening, and flame hardening — each process is applied where it contributes most to strength, toughness, and hardness. The most modern arc welding is used, plus stress relieving by heat treating, where this will contribute greater strength and longer life.

See a modern Bucyrus-Erie in action. You'll soon know why owners agree that you get more for your money with a Bucyrus-Erie, and back that statement with their repeat orders.

230E56

Many gears and pinions are flame hardened to give them the strength and hardness needed for most efficient service.

BUCYRUS ERIE

SOUTH MILWAUKEE, WISCONSIN

Equipped with pulpwood grapple, this Bucyrus-Erie 22-B crane is loading specially designed pulpwood cars at Great Northern Paper Co. yards, St. Francis, Maine.

Brings Down Trees Up To 6 Feet in Diameter

This Lightweight Chain Saw Packs Real Power

The Homelite 5-20 — with 5 full horsepower and easy-to-handle 20 pounds — fells, bucks, notches and limbs with less effort and in less time. It brings down trees up to 6 feet in diameter — cuts through 20 inch trees in 20 seconds. And because of its diaphragm carburetor and positive fuel pump, the 5-20 lets you cut from all angles, in any position — with no adjustment or loss of power.

Besides its rugged power, light weight and ease of handling, the 5-20 assures you quick starting in *any* weather . . . low maintenance costs in *any* cutting operation. And in addition to its wide range of straight blades and plunge-cut bows for all types of production cutting, the 5-20 can be converted to a brush cutter for clearing fire lanes in pulpwood or timber tracts. A special clearing attachment is also available for speedier, easier limbing or for clearing out small trees.

Your Homelite dealer will be glad to give you a free demonstration of this power-packed, value-packed 5-20. See him soon.

Homelite builds and sells more chain saws than any other company in the world

A COMPLETE LINE OF CHAIN SAWS FOR EVERY CUTTING JOB

Model EZ . . . lightest, most powerful direct drive chain saw ever developed. Only 19 pounds, full 5 horsepower. Brings down trees up to 3 feet in diameter.

Model 17 . . . an all-purpose saw that brings down trees up to 4 feet in diameter. Available with special brush cutting, bow and clearing attachments for complete versatility. 3½ horsepower, 20 pounds.

Model 7-29 . . . the most powerful one man chain saw you can own. Seven full horsepower, only 29 pounds. Power to give top production in the biggest timber, yet light enough for work in the smallest trees. Cuts down trees up to 10 feet in diameter. Available with straight blades or plunge-cut bows.

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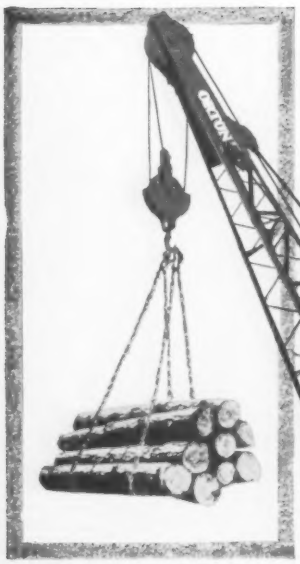

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When your handling problems are many . . . and complex, keep in mind that an

ORTON Crane is built specifically for each job.

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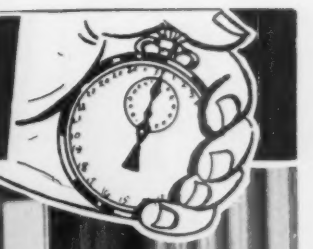

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....WAS A 40' LOG *with a*

40" BUTT-DIAMETER

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SUMNER 175" CHIPPER!

This demonstration of speed, precision and dependability is typical of the numerous Sumner Chippers of all sizes to be found in sawmills, veneer plants, pulp, paper and board mills in all parts of this country, Canada, Australia, New Zealand and the world.

In addition to this 175" whole-log chipper — which produces nearly 400,000 units of chips annually, Sumner manufactures a 153" chipper for up to 32" diameter logs; 112" and 84" chippers for smaller logs, pulpwood and cant sections; and a range of 72", 66", 42" and 36" chippers that include the famous Sumner Wide Spout Wastewood, Veneer, Peeler Core and Rechippers . . . each designed with a purpose and size available to meet each operational requirement.

Sumner has the distinction of building the largest and the smallest as well as the widest range of chippers, including all accessories . . . regardless of size, output or other woodroom requirements.

Your inquiry will receive our immediate attention.

SUMNER IRON WORKS *Since 1892*

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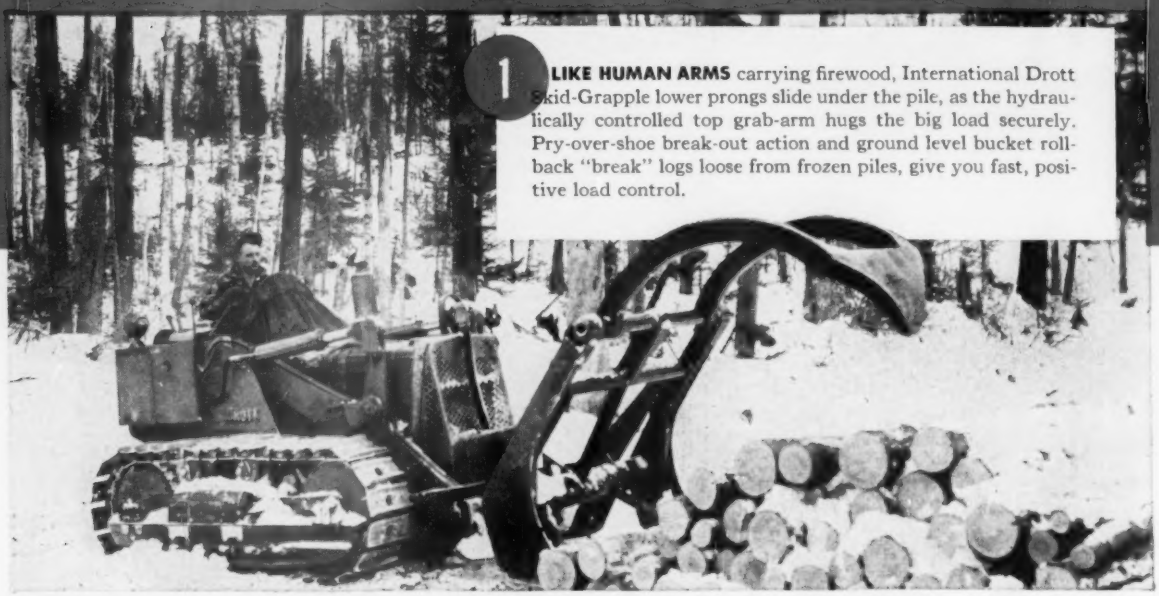
4 ways International® Drott® Skid-Grapples

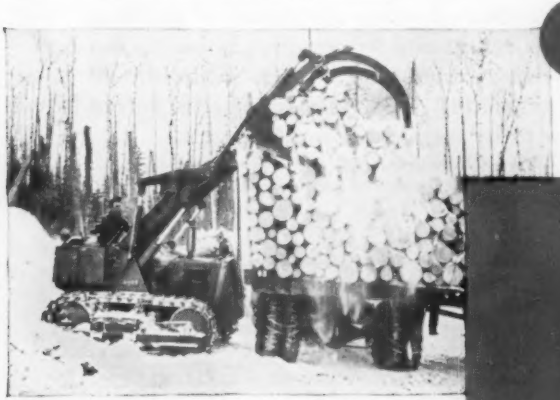
speed pulpwood production in the woods . . . at the mill!



1 **LIKE HUMAN ARMS** carrying firewood, International Drott Skid-Grapple lower prongs slide under the pile, as the hydraulically controlled top grab-arm hugs the big load securely. Pry-over-shoe break-out action and ground level bucket roll-back "break" logs loose from frozen piles, give you fast, positive load control.

2 **SEMI-SKID TRANSPORT** on big rugged Drott skid-shoes permits operating at time-gaining speed, adds stability, provides clear-view visibility. You get top production every working hour. All-weather, all-condition crawler traction helps you beat adverse conditions and keep producing.

3 **YOU PILE HIGH** into trucks or onto piles . . . quickly, easily and with complete control because of Drott grab-arm "hug-action". Piling, skidding and loading operations are done with almost no "bull-work". Skid-grapple savings of $1.00 per cord are ordinary!



4 **SELECTIVE DUMPING CONTROL** permits releasing logs one by one, or all at once. Top grab-arm is controlled by third valve of hydraulic system, which can also be used to operate rear-mounted road-working equipment. Ask your International Drott distributor about Drott Skid-Grapple advantages in your pulpwood production. Call him today.

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BIG WORK CAPACITY— 30-ton HC-98 truck-crane, owned by Pilot Rock Lumber Co., Pilot Rock, Oregon, can handle a 2700 board foot log without setting outriggers . . . loads out an average of 125,000 board feet per day.

POWER HYDRAULIC CONTROLS provide fast, safe, smooth and positive response . . . minimize operator fatigue, help 1-yard LS-98 increase output for Wilson & Sutton Logging Co., Ariel, Washington.

INDEPENDENT SWING AND TRAVEL, an optional feature, saves moving boom, speeds operations. J. I. Morgan, New Meadows, Idaho, owns three Link-Belt Speeder loaders, says, "They're dandies."

HIGH MOBILITY, VERSATILITY— 1-yd. LS-98 shovel constructs access roads in Oregon. Self-cleaning tracks reduce maintenance despite rough going. Power steer makes travel easier.

HOW TO SPEED LOG LOADING!

Put a Link-Belt Speeder on the Job and get all these advantages---

No other line of log loaders gives you as much power in terms of actual line pull and log-loading speed — so important in single-line work. In addition, only Link-Belt Speeder offers a combination of anti-friction bearings, splined shafts, precision-machined parts and gears at every important power transmittal point — *plus* extra strength and heft of top-quality components.

A Link-Belt Speeder works so swiftly that you've got to see it to believe it. With Speed-o-Matic—the only *true power* hydraulic control system in the industry—operation is fast, accurate, safe and easy. In log loading, for example, Speed-o-Matic is so good that owner after owner has reported a 10 to 25 per cent increase in production over previously used machines.

But don't take our word for it. See a Link-Belt Speeder in action. Your distributor will be glad to arrange for an on-the-job demonstration. See him now or write today. Every day you hesitate is costing you big money. Link-Belt Speeder Corporation, Cedar Rapids, Iowa. 14.238

LINK-BELT SPEEDER

Builders of a complete line of shovel-cranes . . . with exclusive Speed-o-Matic power hydraulic controls

LOADING FOR A LONG JOURNEY . . . Lodgepole pine for Wisconsin mills being loaded in Milwaukee Road cars at White Sulphur Springs, Mont. The Unit crane, built in Milwaukee, and a Mack Co. pulpwood bucket, made in Duluth, Minn., doing an efficient job of loading up to a minimum of 25 cords to a car. The Unit crane provides plenty of visibility, because there is no cab on it.

Pulpwood Pioneering in Montana

Tenth anniversary of producing lodgepole for Wisconsin mills finds Corcoran operation has licked many problems.

—Bozeman, Mont.

● In the Little Belt Mountains and Yellowstone National Park borderlands of Montana, from about 30 to 100 miles north of the park, about 55,000 cords of lodgepole pine will be logged and trucked to rail points from May 1, 1956 to April 30, 1957, for delivery to three kraft mills in Wisconsin.

A full decade of pulpwood logging in Montana, the "Treasure State," is being rounded out this year. Started back in 1946 by the three beneficiary mills—Mosinee, Nekoosa-Edwards and Thilmany—in collaboration with the Corcoran Pulpwood Co. and the U.S. Forest Service, these unique operations were toured for a second time recently by a PULP & PAPER editor.

The day is inevitably coming when there will be more logging for pulpwood in the "Treasure State" or other Rocky Mountain states, and so this story of the Corcoran company may be useful to those who follow—or paper companies looking to the Rocky regions for their future wood.

For ten years the Corcoran company has been logging pulpwood in a state which still doesn't have a pulp mill of its own. But now, comes news that Montana will soon have one or two mills. At Missoula, Mont., PULP & PAPER visited lumber operations which are among 8 mills in that area preparing to furnish chips made from their wood left-overs for a new woodpulp mill to be built by Waldorf Paper Products Co. of St. Paul, Minn. (see Oct. issue of P & P, Growth Section). And St. Regis definitely plans a mill in the far northwest corner of the state, in the Kootenai and Flathead National Forests region (see Growth Section, this issue).

HOW IT STARTED . . . The late James A. Corcoran of Webster, Wis., president of Corcoran Timber Co., Bemidji, Minn., and its subsidiary,

MONTANA LOGGERS FIGURED OUT THEIR OWN PROBLEMS . . . They found it most economical and practical to skid long lengths of lodgepole and designed equipment for slashing and loading. Picture at top—Slasher equipment showing the crosshaul, the "Chief Bemidji" cutoff saw, made by D. & R. Machine & Supply Co., Bemidji, Minn., and beyond is conveyor to the truck. Lower picture shows same operation from the other side, showing more of the conveyor and loader. Logs are cut in 100 in. lengths.

The parent Corcoran Co. operates in Bemidji where the saw was made. The chain loader was made to special order right in Bozeman, Mont. These pictures are at White Sulphur Springs logging area where John Ringling of circus fame has a big ranch.

Corcoran Pulpwood Co., a Montana corporation, launched the pulpwood logging project in southwestern Montana in 1946, with backing of the three Wisconsin mills. Since his death in Dec. 1953, his son, Donald A. Corcoran, a stocky, dark haired young Irish descendant, has carried on as president of both companies. Don Corcoran, with his wife and family, had already established his own permanent home in Bozeman, Mont., where he lives year around, and headquarters of his company are in the little Bon-Ton building just off Bozeman's Main Street, which is U.S. Highway 10. Bozeman was named after Capt. Bozeman of the U.S. Army who was killed by Indians.

PRODUCTION APPEARS STABILIZED . . . Production of 55,000 cords in the 1956-57 year will be equal to the production of the 1955-56 year. Under present conditions, the company is likely to stabilize production annually at close to this figure. The wood, of course, is more expensive than the Wisconsin mills pay for the bulk of their requirements in the Lake States, and so their inclination is to set reasonable limits on what they import from Montana—a haul of 1,200 to 1,300 miles from a half dozen different rail loading points.

The biggest year the Corcoran Pulpwood Co. had was in 1951-1952, when it produced and delivered 120,000 cords to its three sponsor mills. Wood shortages created by the Korean War boosted the output to these record heights in order to keep the Wisconsin mills adequately supplied.

There are about 26,000,000 acres (about 40,000 sq. mi.) of wooded mountain lands in Montana, covering the western third of the state. This is the "roof" of North America. These forested mountain lands are equal to about the size of Virginia or of Ohio. This is virtually all Forest Service timber and there are several important species from Douglas fir to spruce and pine.

Great areas have been plagued by insects and are brown blots on the landscape, dead or dying. Much timber is over-mature and easy prey to insects. In comparison to these forest lands, there are about 30,000,000 acres of farm lands and 38,000,000 acres of grazing lands in Montana, mostly in the east and central portions. There is no problem or conflict here, as in the South, between grazers and farmers on one side and loggers. Their lands do not overlap in Montana.

The traveler from the east, whether by Highway No. 10 or by railroad, has his first view of Montana's mountainous summits as he leaves the Great Plains. The first he sees are the Crazy Mountains or the Little Belt Mountains to the north of the Crazies. As soon as he gets into these wooded, rolling hills and mountains he is in Corcoran pulpwood country. The mountains rise higher and higher as he reaches the Continental Divide, with peaks from 8,000 to 12,000 ft. high—but this is in higher ground than the Corcoran logging. Corcoran's Bozeman headquarters on the Northern Pacific line are at 5,000 ft. above sea level. The explorers, Lewis and Clark, came through this way.

DIFFICULTIES OF LOGGING IN MONTANA . . . The lodgepole pine logging of the Corcoran company is in rough, often rather steep terrain, at from 6,000 to 8,500 ft., comparable to the logging "sides" in lower slopes of the Pacific Coast Douglas fir region. Lodgepole grows on mountain sides in thick stands. So it is expensive, rugged work, requiring heavy duty equipment. A few years ago it was figured that by the time Montana pulpwood reached the mills, $1,000 had been spent in wages alone for every acre harvested.

Initial road costs are high, especially in the rocky areas. Rocks are hard on equipment. Winter snow removal can become a difficult and costly problem during periods of heavy snowfall and high winds. This is because the approaches to most of the logging operations are across open grazing areas. Logging is now on a year-round basis. Sometimes the loggers have to battle up to 7 ft. of snow (it is often 15 ft.

deep on the level). They keep shoveling at a minimum so as not to have over a 12-in. stump. Wet weather makes slippery roads impossible to use. Most skidding is on steep grades where sulkics cannot be used.

HOW LOGGING IS DONE . . . Trees are cut by fallers using one-man chain saws. The faller fells the tree, limbs and tops it. Trees are then skidded full length to slasher saw by Allis Chalmers HD5 and Caterpillar D4 tractors. Each tractor will skid approximately 8 trees per trip. The tree is then pulled on a conveyor by a crosshaul. As the tree is moved along the conveyor by powered rollers, it hits a bump board and a circular saw is pulled down, cutting a 100-in. stick. The stick then drops on the conveyor loading it directly on the truck.

All trucks hauling pulpwood are tandem axle. Each truck will haul about 6 cords per trip which is unloaded in 6 min. by a pulpwood bucket on a ¾ yd. machine. Pulpwood is hauled over company-built roads to state and county roads and then to railroads.

All railroad cars must have a minimum of 25 cords per car and each car has to have special length side stakes and must be wired from top of car to top of wood. Pulpwood cars are then ready for their long trip across four states to the paper mills.

Equipment takes a beating in Montana. Much of it has to be especially designed with the advice of the Corcoran loggers. Cutting is done every month of the year, but in spring thaws trucking is often delayed.

LOGGING LOCATIONS . . . Six logging areas are centered at these rail loading points: White Sulphur Springs, Martinsdale, Jardine, Bozeman, Trail Creek and Gallatin Gateway. At Jardine and Trail Creek, logs are delivered by trucks to Northern Pacific Railway cars. At the other four points, the carrier is the Milwaukee Road.

Truck hauls are mostly from 30 to 45 miles to any of these six loading stations. All of the trucks are owned by the actual logging operators or gyppos, but in four of the six operations, the logging equipment is owned by Corcoran. In others, gyppos own equipment as well as trucks. Driving along the N.P. or Milwaukee lines, often paralleling highways, or down toward the Northwest entrance of Yellowstone, the neatly stacked piles of pulpwood along the railroad are familiar sights to travelers. But not many know this is pulpwood destined for Wisconsin—not even the Montanans, themselves, whose first guess might be that the wood was for some of their many little sawmills.

KINDS OF EQUIPMENT USED . . . The Corcoran company's own equipment consists of some 93 units for road building and for skidding, counting diesel and gasoline driven units.

Most of the skidding is done with a fleet of 37 Allis-Chalmers HD5s and HD9s. There also are six Skagit stationary gasoline engines for skidding. A few Caterpillar D4s are also used for skidding.

For road building, there are mostly Caterpillars. There is one Cat D8 and one Cat D7 for heavy steep road building. Seven Cat D4s, two Allis Chalmers HD15s and one International TD14 are among units in use for road work.

The Corcoran company has a rock crusher for production of surfacing material, also cranes for loading wood, jackladders for loading wood direct into trucks in the woods, slasher saws, compressors, rock rakes, rippers and welder units. A complete shop is maintained for overhaul and maintenance. A fire tower, owned and manned by the company, is located on the West Fork of the Gallatin River.

At most of the operations, some 15 to 20 trucks are used.

SUPERVISORS . . . A visitor finds a fine esprite de corps among the Corcoran men. They all are enthusiastic about Montana logging and sure of a long-term sound future. And they all like living in this "open sky" country on "top" of America.

Righthand man to President Don Corcoran is Gerald Delin, superintendent of all operations, who also hails from the Corcoran's home town of Webster, Wis. Charles Lyons is administrative counsellor.

GETTING LODGEPOLE OUT . . . An Allis-Chalmers HD5 Tractor with a Hyster Arch is seen skidding tree length logs to the slasher equipment, where logs are cut to 100 in. length and mechanically loaded on trucks as shown in other pictures.

MINIMUM OF SHOVELING . . . In heavy Montana snows (note depth around this tree) a minimum of shoveling is done and still have stumps under 12 in. This Corcoran logger is using a McCulloch one-man power saw.

Under Mr. Delin are Fred Nopper, a native of White Sulphur Springs, Mont., who oversees the northern operations at that town and around Martinsdale, and Carl Carlson, another logger from Webster, is in charge of the southern operations.

White Sulphur Springs, which was named by the elder Ringling of circus fame, and is now site of John Ringling's present ranch, is 140 miles north of Bozeman in the Smith River valley which cuts north-and-south between the green slopes of the Big Belt and Little Belt Mountains. Martinsdale is 120 miles northeast of Bozeman in another valley cutting through diagonally east-west between the Little Belt and Crazy Mountains. The other operations are around Bozeman and southward in Gallatin National Park and bordering Yellowstone National Park.

MUCH LODGEPOLE MATURE OR OVER-MATURE . . . Over 90% of the lodgepole being logged is Forest Service timber, the rest is privately owned timber. A large portion of the lodgepole in Montana is mature and over-mature timber, highly susceptible to attacks by insects and so harvesting is greatly helping to keep stands healthy. There are millions of acres of this lodgepole. Old trees shade the ground and prevent new growth.

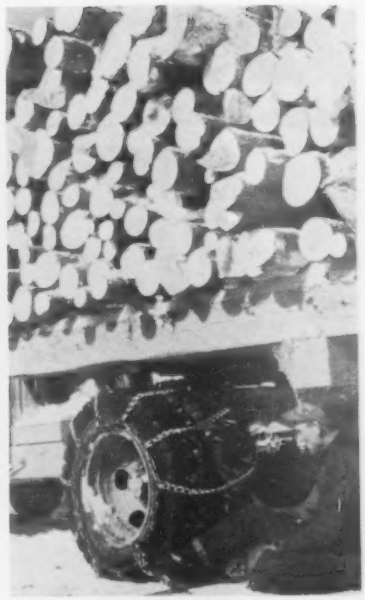
Clear patch cutting is done. With the "gravity fall" from hilly slopes and the normally frequent Montana breezes, these areas are being satisfactorily reseeded by the surrounding forests, left to stand, and there is no need for now almost out-of-date selective logging or planting. The Forest Service has been convinced in most areas of the Far West that clear cutting and patch cutting is best, and it is now generally practiced everywhere. In the Corcoran operations, clear cuts or patches will range from one to 30 acres, and average about 25 acres.

OTHER PERSONNEL . . . Contractors serving the Corcoran company include Erwin Heggi, who conducts the logging in the Martinsdale area; Merlyn Horan, in the Bozeman area; Harry Tack in the Jardine operations; and Everett Shilts, along the West Fork of the Gallatin River, which, incidentally, joins the Madison and Jefferson to form the great Missouri River just 20 miles above Bozeman.

In the case of these four contractors, Corcoran owns the timber, also the slasher saws, skidding Cats or tractors and logging equipment. The contractors own the trucks.

Other logging is operated on what the Far West calls a "gyppo basis" by

SEMI-TRUCK KEEPS ROLLING . . . In Montana thaws in May and June, the trucking is delayed, but cutting goes on. Wet weather is bad because of the steep grades. This is real mountain logging in Montana. There are 6 to 6½ cords of 100-in. long logs on this truck.



CHAINS ARE A MUST . . . This Chevrolet truck carrying wood out to railhead for shipment to Wisconsin has 8¼ by 20 in. tires; on the trailer the tires are 10 by 10 in. Trucks haul about 6 cords per trip of 100-in. length wood.

J. B. Robbins, Olaf Johnson and Dave McCracken.

Charles Fox is the Corcoran firm's chief accountant. Buck Stevens, from Spokane, Wash., also holds forth in the central offices, which are in the Bon-Ton building. Here books and payrolls, which are actually the books of the parent firm, Corcoran Timber Co., are handled.

OTHER OPERATIONS . . . Incidentally, the Corcoran Timber Co. of Bemidji, Minn., has been supplying pulpwood in Wisconsin long before this Montana company was organized. It operates three sawmills and cuts jackpine and aspen and the pulpwood from its operations goes to only two of the trio of kraft mills involved in the Montana operations. These are Nekoosa-Edwards Paper Co. and Mosinee Paper Mills.

Of course, Thilmany, Mosinee and Nekoosa-Edwards executives have taken a direct interest in Montana logging and frequently visit the operations. Most often seen out west by Mr. Corcoran and his cohorts from the Wisconsin mills are Norman Stone, vice pres. and gen. mgr., Mosinee Paper Mills; Frank Fixmer, Mosinee's woods mgr.; John Alexander, president, and Neil Nash, vice president of Nekoosa-Edwards; George Kilp, Nepco's woodlands mgr.; "Jinks" Jennings, president, Charles Seaborne, executive vice pres., and Ken Kiffe, in charge of wood procurement at Thilmany Pulp & Paper Co.

The first pulpwood cuts of 10 years ago are already covered with new growth, 8 or 10 ft. high and thick enough to hold the soil against erosion. These new growth areas offer excellent forage for deer, elk and other wild life that abound in the Montana mountain country.

PIONEERING PULPWOODING CREW . . . They battled many handicaps to blaze trail for pulpwood logging in Montana. The Corcoran & Pulpwood Co. execs looks over a logging map (left to right): FRED NOPPER, Northern Supt.; CARL CARLSON, Southern Supt.; DON CORCORAN, President; GERALD DELIN, General Supt.; CHARLES LYONS, Administrative Counsellor.

PREPARING A SITE . . . Fire suppression equipment like this Caterpillar D-4 tractor and Rome Master harrow are used in "off season" by K. S. Varn to ready land for planting of seedlings. Mr. Varn is a conservation pioneer in the South.

Equipment "Doubles in Brass" For 30-Yr. Forestry Advocate

• One of Georgia's most progressive tree "farmers," K. S. Varn of Hoboken, Ga., is still practicing what he started preaching 32 years ago—that a tree farmer should plant as many acres of pine seedlings every year as he logs or loses to fire.

Mr. Varn's philosophy—which was quite revolutionary 30 years ago—has proved its worth many times over. It started when he put down almost a million seedlings in less than two years back in the thirties. Every year since he has planted between 100,000 and 200,000 seedlings on land which he prepares with fire suppression equipment used during the off season.

Until the past year, Mr. Varn had contracted for fire protection from a local group. His cost was between $5,000 and $6,000 a year. All things considered, he decided to purchase his own equipment which proved economical in more ways than one. When not fighting fires, his Caterpillar D4 tractor and Mathis Plow are busy clearing sites.

A staunch advocate of site preparation before planting, Mr. Varn claims that plowing before planting gives trees a good starting boost. "We use a fire plow first and then follow it up with a Rome Master harrow. It gives us a good stand in both cutover and burned off land," he says.

HIS METHODS . . . When he began intensive forestry practices on his 40,000 acres of land, much of his planting was done with dibbles. He says he can remember when two men could put out 2,000 seedlings a day with this method. Today, a mechanical planter sinks 8,000 seedlings a day into the ground. Using only slash pine, he plants 300 seedlings to the acre. Last year he bought all his seedlings from the State of Georgia, which produced 118,000,000 seedlings in 1955.

His "farm rotation" consists of turpentining his trees when they get 15 years old—20 for smaller ones. Using the bark chip and acid method, he continues turpentining for about five years, moving up three-quarters of an inch on the trees each month. Mr. Varn turpentines eight months of the year.

He cuts the big trees for sawlogs first to give smaller trees a chance to grow and then eventually takes down smaller trees for pulpwood. Varn Timber Co. is one of the largest naval stores producers in Georgia. Mr. Varn owns his own turpentine plant and his three sons each own their own pulpwood yard, purchasing outside wood as well as processing pulpwood from family forests.

Head Tractor Sales

W. J. KLEIN (left) is appointed Vice President and Director of sales, and W. L. VOEGELI (right) is appointed General Sales Manager. Tractor Group, Allis-Chalmers Mfg. Co., Milwaukee, Wis.

Mr. Klein had been Vice President and General Sales Manager, Tractor Group, while Mr. Voegeli has been Assistant Director of Engineering.

Soderhamn Opens West Coast Sales Office

Gus Jacobson, Pres. of Soderhamn Machine Mfg. Co., announces the opening of a West Coast sales office in Portland, Ore., to be under supervision of PAUL KORNBERG (left), former Purch. Agent at Soderhamn's Talladega, Ala. plant. Spare parts service will be available both in Portland and in Vancouver, B.C. MATT OTEY JR. (right) is promoted to Purch. Agent, and will also handle all spare parts orders to insure prompt shipment from Talladega.

Western Forestry Meeting in B. C.

Forest management will be considered from numerous aspects of concern to pulp and paper at this year's annual meeting of Western Forestry & Conservation Assn. to be held Dec. 5-7 at Victoria, B. C.

WHERE and WHY
LORAINS SAVE
ON PULPWOOD HANDLING

WHERE do Lorains work on pulpwood handling? *EVERYWHERE!* You'll see them in the woods, at the collection yard, or at the mill. *WHY?* Because Thew-Lorain has so many years' experience and know-how in adapting Lorains to the various needs of pulpwood handling operations. Some applications require the high-speed mobility of rubber-tire mountings—some the soft-ground flotation of crawlers—some require gantries to straddle flumes or conveyors—some need long, straight booms—some need gooseneck booms—some need pulpwood rakes, or elevated cabs, or grabs, or grapples. Loading or unloading trucks, cars, or barges, handling piled, stacked, jackstrawed, wet, or frozen wood, all are easy jobs for Lorains.

The point is this—you'll see more Lorains handling pulpwood because Lorain has specialized in the development of all these mountings, booms, cabs, attachments and features that lower costs and boost profits for pulpwood men. These are reasons *why* you should counsel with your Thew-Lorain Distributor for your needs, too!

A Lorain Crane uses a 70-ft. boom and pulpwood sling to unload trucks into conveyor hopper at Bowaters Southern Paper Corp. plant, Calhoun, Tenn. Bowaters Southern owns 4 Lorains.

THEW
LORAIN®
THE THEW SHOVEL CO., LORAIN, OHIO

Chain Saw Plant For Southern States

Homelite, a division of Textron Inc. of Port Chester, N. Y., plans to build a new 135,000 sq. ft., modern one-story factory building in Gastonia, N. C., for the production of its gasoline-powered chain saws. Construction of the new plant will begin in November and full operation is expected by the fall of 1957.

The property in Gastonia is a 62-acre tract of land, two miles south of the town. It is half covered with pine trees. Homelite plans to develop this as an experimental tree farm. The $2 million plant will have all new machinery and equipment and will have an annual payroll of about $1½ million.

J. Allan Abbott, president of Homelite, said "since the introduction of the Homelite chain saw in 1949, sales have exceeded even the most optimistic predictions and we have outgrown our present production facilities."

Woods Men at Fraser in Shift

Changes at Fraser Co. in the lumber and logging department result from retirement as Manager of R. G. MacFARLANE (left) and promotion of A. R. MONTGOMERY, former Asst. Manager, to that post. V. C. BASTIN (third in row), who was Asst. to the Manager, fills the spot vacated by Mr. Montgomery, and J. E. WHITTAKER (right) is now Gen. Supt. of the department. Mr. MacFarlane joined Fraser at Plaster Rock, N.B., 45 years ago. For 22 years he was a member of the council of the woodlands section, CPPA. Mr. Montgomery has been with Fraser since 1932 when he joined the subsidiary Restigouche Co.

Pulpwood Personals

CHARLES V. WHATLEY and **ELVIN J. REINHARDT** are recent additions to the Louisiana Forestry Commission. . . . **C. R. MORDECAI, JR.,** is now supt. of the conservation dept. of Union Bag-Camp Corp. in Savannah. . . . **E. L. MOLPUS** is supt. of the land dept. for Union Bag-Camp, also at Savannah.

SOUTHERN PULPWOOD CONSERVATION ASSN. is getting a lot of attention these days from its program of "get acquainted" meetings designed to promote better understanding between paper companies, pulpwood dealers and county agents and vocational agriculture teachers. They've held six of these meetings throughout the southeast already—and played to SRO.

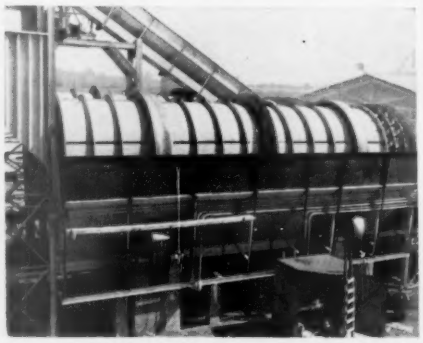
Noted and quoted at recent SPCA meeting: Question from the floor: "What happens when a pulp mill runs out of wood?" Answer from **ALBERT ERNEST:** "The wood procurement manager gets fired." . . . And here is the definition of two common interoffice terms: Under Consideration—never heard of it; Under Active Consideration—we're looking in the files for it.

Convert Logs into HIGH-QUALITY CHIPS

with Carthage Log Barkers, Log Splitters, Log Chippers, Slab Chippers, Chip Screens

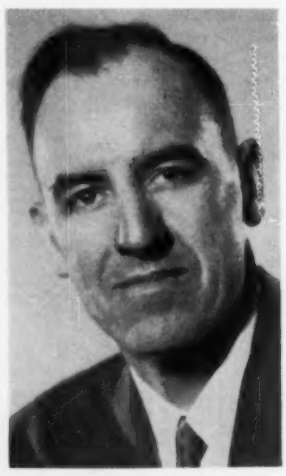
For Example:

CARTHAGE BARKING DRUMS thoroughly remove the bark with minimum brooming of the logs. Heavy, all-welded design with full-length plates results in long service life and low maintenance.



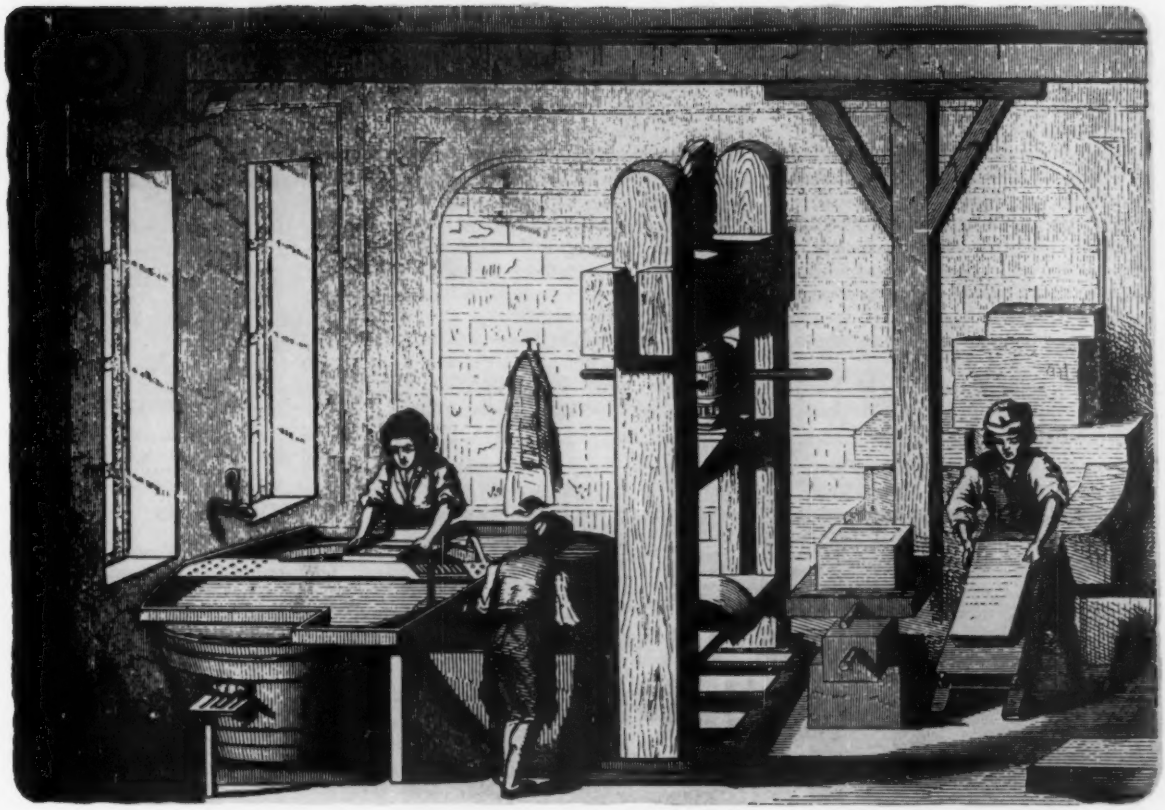
Write for Complete Information

CARTHAGE MACHINE COMPANY CARTHAGE, NEW YORK



Represents Hansel Barkers

DAN B. CHAPMAN, 2121 N. Union St., Appleton, Wis., has been appointed representative in the Middle West for Hansel Engineering Co., Inc., 6602 202nd Ave., S.W., Lynnwood, Wash., manufacturers of hydraulic barkers and other equipment. An outstanding representative in this area, Mr. Chapman also represents Fulton Iron Works, Cheney-Bigelow, Evans Rotabelt, Paul Valves Corp., and Morden Machine.



Papermaking in 1666

Where will your sales be in 1966?

Will you be advertising to the right people? To get to the top and stay there, you must keep your name and products before the men who are in a position to buy them. Advertising in **Pulp & Paper** is the best way to do this if you want to sell to America's second-fastest growing industry—today or ten years from now. Here's why:

Pulp & Paper is paid for and read by more of your customers and prospects than any other business magazine serving the industry. Crisp, firsthand reporting by industry-wise editors*, combined with the finest and best-balanced circulation available anywhere**, reflect the soundness of **Pulp & Paper's** growth — closely in step with the industry's growth.

Proof that **Pulp & Paper** does a helpful selling job for its advertisers is shown by the business gains it has made during the past ten years. In 1955 **Pulp & Paper** carried 710 more advertising pages than in 1945. Its three nearest competitors carried 838 fewer pages.

Whether you sell hand tools, heavy machinery, chemicals or specialized services, the record proves that your advertising in **Pulp & Paper** helps your sales representatives keep on top of this soundly-growing industry. Write for detailed information describing this market and how to sell it.

*Through the continuing reader research reports of the Eastman Research Organization, Pulp & Paper readership is continuously compared in every detail with that of a wide variety of leading business publications served by that organization. This is the only reliable yardstick ever developed for measuring reader effectiveness. Pulp & Paper has this service exclusively in the pulp and paper field.

**Write us about this and refer to Pulp & Paper's advertising in Standard Rate & Data.

PULP & PAPER

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PACIFIC FISHERMAN · PACIFIC WORK BOAT · CLEANING & LAUNDRY AGE · WESTERN CANNER & PACKER · CONSTRUCTION WORLD

Direct Selling by Mills? Subject at NPTA

The 1956 Fall convention of National Paper Trade Association, held Sept. 16-19 at Chicago, heard much about products and sales markets.

Charles D. Jackson, editorial vice president of Time Inc., discussed "Communications in Today's World."

"Russia has taken an irreversible step by opening up our opportunities to communicate behind the iron curtain," Mr. Jackson declared. "If we use our skills of communications, there will be peace in our time."

In his opening remarks, L. M. Murphy, association president and chairman for the session, characterized the present period as one "of basic changes in the paper industry."

Mr. Murphy urged mills, converters and wholesalers to recognize mutual responsibility in solving problems. "There are signs that our industry may be coming of age and that the well-being of all components is being recognized as essential to the health of the whole," he stated.

Charles F. Chaplin, vice president of Thor Corp. (Thor has just changed its name to Allied Paper Corp.) and general sales manager of its Allied Paper Mills division, talked on "Are Merchants Forcing Mills to Sell Direct?" Mr. Chaplin warned that the "menace of direct sales begins when the merchants handle competitive lines." When the mill discovers this, it seeks to avoid the situation by getting its own contracts direct.

"The greatest threat is in the future," Mr. Chaplin asserted. "We're in a tight paper market now, which is drawing to a close. By 1958 all grades of paper will be available."

By 1959 our population will have risen from 168 to 177 million, Mr. Chaplin predicted. This population will consume 42 million tons of paper and paperboard for a per capita consumption of 481 lbs., as against 37 million tons and 427 lbs. today.

Highly effective, this optical brightener produces a brilliant neutral white on nearly all grades of unsized bleached papers.

It is an ideal companion product to the wide range of CIBA dyes designed to meet all paper requirements.

CIBA

CIBA COMPANY INC., 627 Greenwich St., New York 14, N.Y.

Fall Meeting Set For Pacific Coast

The annual fall meeting of Pacific Coast Division of the Superintendents Assn., at Portland, Ore., Nov. 29-Dec. 1, will feature West Coast developments in tissue and glassine-greaseproof paper as well as in the various pulping processes, according to Chairman Max A. Bailey, paper machines superintendent of Westminster Paper Co.

Dave Harris Elected to Board

DAVID W. HARRIS, whose election to the Board of Directors of C. C. Moore & Co. Engineers, Inc., San Francisco, is announced by H. H. Smith, President.

A native of Granger, Wash., Mr. Harris has been Seattle District Manager since 1950. He joined C. C. Moore after graduating from Washington State College in 1934. He has been closely identified with many power plant developments in the Far West, notably development of magnesia base pulping cycle at Weyerhaeuser Timber Co.'s sulfite operations in Longview, Wash., and Puget Pulp's at Ketchikan, Alaska. His company is representative in the Far West for Babcock & Wilcox Co. He is a former President of Seattle "Waiting Room" of the International Order of Brotherhood of Migratory Peddlers, an association of pulp and paper industry affiliates.

ANNOUNCES NEW MARKET PULP PLAN. London-born HECTOR G. MUNRO, who heads project for new market pulp mill in British Columbia. He is Pres. of B. C. Forest Products Ltd.

Mead to Market New B. C. Pulp

Appointment of Mead Pulp Sales, Inc., as exclusive sales agent for the production of its new bleached sulfate woodpulp mill, now under construction at Crofton, B.C., is announced by H. G. Munroe, president of British Columbia Forest Products, Ltd., Vancouver, B.C.

Mead Pulp Sales will handle domestic distribution through its New York, Chicago and Dayton, O., sales offices. It will set up an export division to handle overseas sales.

This new $38,000,000 pulp mill will incorporate all the latest manufacturing facilities, with a rated production of 425 tons of pulp per day. It is fully described in the October issue of PULP & PAPER. Walter W. Holland is vice president, pulp, British Columbia Forest Products, Ltd. Consulting engineers are H. A. Simons, Ltd.

The mill is to be in production by the Fall of 1957.

Fibre Box Assn. Launches Education Service to Colleges

The Fibre Box Association has started an educational service designed to acquaint college students with the opportunities available among the nation's fibre box plants, and emphasizing the importance of their products to the country's economy.

Copies of a booklet—"The Dynamic Fibre Box Industry"—have been sent to placement officers and professors of transportation, marketing and distribution, and packaging, of all leading universities and colleges. The Association also offers qualified industry speakers and visits for students to box plants.

Anti-Pollution Record Set by Wisconsin Mills

Wisconsin sulfite pulp mills will reach a new high in keeping spent liquor out of the streams in spite of cold wet summer that cut use of sulfite roadbinder in the state by 27% below pre-season estimates, says Averill J. Wiley, technical director of Sulphite Pulp Mfrs. Research League.

"The same wet weather that reduced road officials' demand for roadbinder has favorably affected stream conditions," Mr. Wiley pointed out.

National Paperboard Association Annual Meeting

The 1956 annual meeting of NPA will be held at the Waldorf-Astoria Hotel, New York City, November 13 and 14, it is announced by Albert W. Luhrs, executive manager.

T. N. Bland, Fibreboard Products Inc., San Francisco, is president of the association. F. H. Savage, vice president, International Paper Co., and P. A. Schilling, president, Waldorf Paper Products Co., are vice presidents.

POTATO STARCH AVAILABLE NOW COAST TO COAST on year round PRODUCTION basis

American Key acquires entire production of the NEW LONG ISLAND STARCH PLANT plus the output of TWO FACTORIES IN MAINE

WITH FOUR WESTERN MILLS

our seven affiliated plants are strategically located to serve you.

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Western Mills	*Eastern Mills*
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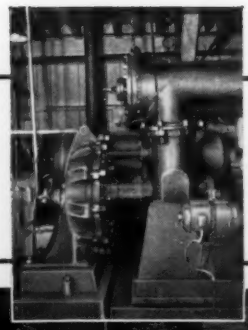
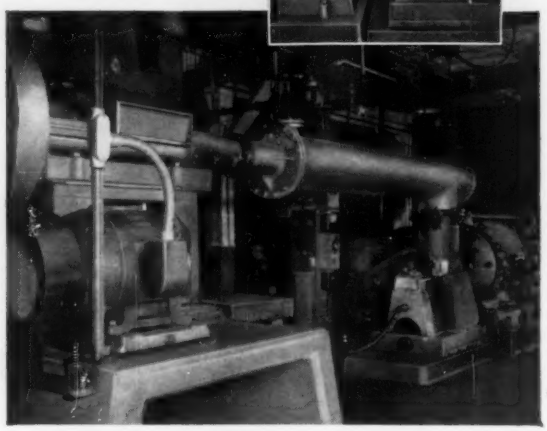


Pulping

THE ASPLUND DEFIBRATOR



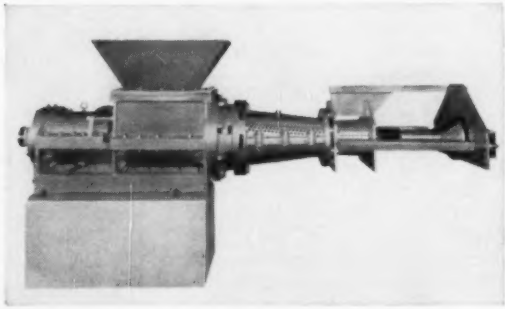
For continuous pulping of wood chips or other cellulose material for hard board, insulating board, roofing and flooring felts, and corrugating board.

In the Defibrator process, the chips are uniformly pressure-cooked as they are conveyed through the digester tube where time, temperature, and pressure are controlled. Chips are then easily defibrated and passed through a blow valve to a cyclone where pulp is pumped to secondary refining or to a stock chest.

Yield is high, and power, operating, and maintenance costs are low. Capacity from 50 to 250 tons per day b.d. New 42" Defibrator now available.

Dewatering

THE DEFIBRATOR BARK PRESS

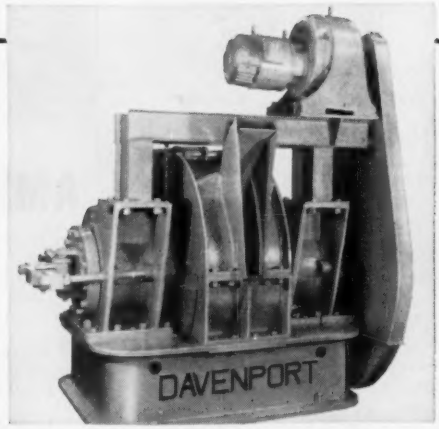


Developed for continuous dewatering of bark for use as fuel. The Defibrator screw feed principle is used to reduce the moisture content of wet bark to 55% or below. In this state, bark burns readily with about half the fuel value of coal.

In installations now in operation, the procesing capacity is approximately 5 tons per hour (on a b.d. basis) and power consumption at this capacity runs between 45 and 50 H.P. Heavy duty construction throughout. Specifications and detailed information on request.

Extraction

THE DAVENPORT CONTINUOUS PRESS



For extraction of excess moisture from semi-solid materials—especially efficient for dewatering pulp and other fibrous materials, where fibers act as a filtering medium, aiding the screen plates in preventing loss of fines in the liquid which is forced out.

As these presses are continuous, they require little attention from the operator except for starting and stopping, with considerable saving in manpower. The process is completely mechanical, with low power consumption and high capacity. And because of its extremely rugged construction, maintenance costs are exceptionally low.

AMERICAN DEFIBRATOR, INC. CHRYSLER BUILDING NEW YORK 17, N. Y. West Coast: A. H. Lundberg Orpheum Building, Seattle, Wash.

STRICTLY PERSONAL

Southern Sidelights

NOTES FROM THE ROAD: **CARL HACKBARTH** is no longer at North Carolina Pulp, Plymouth, N. C. He'll help direct construction of the new W. R. Grace Co. paper mill in Mexico, then be paper supt. . . . **AL DENNARD** has left National Container at Valdosta, Ga., where he was paper mill supt., to become a Fourdrinier trouble-shooter for Champion, operating out of Hamilton, O. . . . **LEE BAUER,** Ecusta prod. mgr., and **MARCY NEWELL,** tech. asst. there, both proud fathers. Lee's son, John, is now a radio technician with the Air Force in California and Marcy's son is in Orlando, Fla., with the Air Force doing guided missile work since his recent graduation from Annapolis.

WAYNE SMITH is now at Inland Container Corp. in Rome, Ga. . . . **CHARLIE BECHTLER,** formerly with Standard Paper Co. in Richmond, Va., is now touring for the Christian Co., manufacturer's reps. . . . **JIM LOVING** has left West Virginia Pulp and Paper's Covington mill for a five year tour in Rigesa, Brazil. **BILL VEROSS** took his place at Covington and **HOMER YOUNG,** formerly bleach plant supt., now heads up woodyard. Homer celebrated his wedding anniversary the day we were there. . . .

At Riegel Carolina in Acme we met **Dr. A. L. M. BIXLER,** who will manage the new paper mill there. Construction for new paper machine at the pulp mill is already underway. . . . **JUSTIN McCARTHY,** vice pres. and chief engr. for St. Regis at Jacksonville, fulfilled every golfer's dream recently at Timuquana Golf Course—he smacked a 145-yard hole-in-one with his five iron on the eighth hole. . . . Mr. and Mrs. **JOHN VICTOR** feted **MILT ROBERTS** with a surprise party after announcement of Milt's appointment as Project Coordinator to St. Regis Central Technical Dept.

I was told to report to the yard pool!

Sonoco Products' president **J. L. COKER** has been named committee sponsor for the Third International Conference of Manufacturers. . . . **BILL PHILLIPS,** son of Camp Mfg. Co's Bill Phillips, following in his father's papermaking footsteps, is studying chem engineering at North Carolina State. His dad is operating assistant to paper mill supt. **ARTHUR SCHULTZ** . . . **BOB WHEELESS** is now tech. asst. to Art Schultz at Camp. . . . **RAY TRAMMELL,** cylinder supt. at Champion's Canton, N.C. mill, recently celebrated his 50th year with the company.

KIRK SUTLIVE, peripatetic and oft-quoted public relations director for Union Bag-Camp, promoted the paper industry on a recent visit to Atlanta to speak to the Kiwanis. Said he: "The paper industry is just getting started down here. . . . I believe the South is in for a major boom." What've we got now??? . . . **EARL MURPHY** is now asst. res. mgr. in charge of engineering and maintenance at Rayonier's Jesup, Ga., division. . . . **WILBUR F. GILLESPIE,** who started work at Gaylord's Bogalusa mill in 1927, has been promoted to general mgr. of the mill. . . . **LEON J. SIMKINS** has been named president of Simkins Industries and **MORTON H. SIMKINS** is vice president. Simkins operates Miami Paper Board Mills, Inc., Benner Box, Inc., Simco Waste Paper, Inc., and several other mills in Miami and Philadelphia. . . . **ROBERT S. SMITH** has been named market development mgr. of Forest Products Division of Olin Mathieson. He will make headquarters at West Monroe.

NEW APPOINTMENTS AT GEORGIA KRAFT—Several new appointments have been made by Georgia Kraft Co. at Rome, Ga. (Left to right) GEORGE L. SNOWDEN, will be Gen. Mgr. of the new Wood and Woodlands Dept. N. R. HARDING is new Dir. of Wood Procurement under Mr. Snowden. ERLE T. NEWSOM, JR., is Dir. of Woodlands. KENNETH KORSTIAN will assist Mr. Newsom as Asst. Dir. of Woodlands. ROBERT A. ROCK has been appointed Dir. of Industrial Relations for both plants (Macon and Rome). E. V. McSWINEY will serve as comptroller of the Rome Kraft mill.

Midwest Medley

HIAL PATRICK PIKE has been promoted to tour paper machine supt. at International Falls, Minn., mill of Minnesota & Ontario Paper Co. He assists **L. A. EVENSON,** paper machine supt. Hial Pike had been machinetender. He was born Aug. 2, 1906 in the paper mill town, Groveton, N.H., and his first job at 15 was in a mill at Gilmon, Vt. He has been with M&O since 1927 . . . **WILLIAM E. SATTERFIELD** has been appointed to newly created post of chief engr. of Peninsular Paper Co., Ypsilanti, Mich. He was formerly plant engr. for Detroit Sulphite Pulp & Paper Co., and Scott Paper Co., Detroit, Mich. . . . **EDWARD T. HANNA,** field sales rep, Industrial Chemical Div., Olin Mathieson Chemical Corp., has been transferred from Philadelphia to the company's Cincinnati sales office.

ROBERT W. HOHMAN and **CHARLES A. MOORE** have been assigned to the Bolton-Emerson Midwest-

STRICTLY PERSONAL

ern territory. Mr. Hohman, who has spent the previous 19 years with Shartle Bros. Div., Black-Clawson, will work under the direction of **JOSEPH STEINER**, mgr. of this region. Mr. Moore will represent Bolton Co. as specialist in knife sales. . . . **JAMES D. STINCHCOMBE** has been selected as first regional engr. to head the newly-established central region of Scott Paper Co. The central region will comprise Scott plants located in Detroit, Mobile, Sandusky, Marinette and Oconto Falls. He is a grad of U. of Mich., and lives at 421 Valley View Road, Media, Ill.

ANDREW BLACKBURN, asst. tech. dir., Appleton Woolen Mills, has completed a two weeks' course in "Modern Textile Technology" given by MIT. . . . **CHARLES J. ZUSI**, formerly president of Container Laboratories, director of research, Hinde and Dauch Paper Co., of Canada, Ltd., and earlier, of Atlas Plywood Corp., has established himself as a packaging consultant with headquarters at 41 Salem Lane, Evanston, Ill. . . . **J. FRANK GRAY** has resigned as director of River Raisin Paper Co., Monroe, Mich. He was one of the original directors of the company, having first been elected to the board in 1910 and reelected annually since then.

WILLIAM RINDSLAND took up duties Oct. 1 in the Central Engineering staff of M&O. Born in London, he first joined Mando in 1947, resigning in 1952 to move to Rayonier Inc, where he was res. engr. at Rayonier's Jesup and Fernandina Beach mills. . . . **GEORGE H. LARSON, GEORGE H. STEVEN** and **ERVIN R. WESENBERG**, all of St. Regis, Sartell, Minn. mill, are the recipients of 40-year diamond pin emblems. These men are three of the five to receive such awards for 40 years' service.

JOHN WOLLWAG, Kimberly-Clark's overseas operation manager, recently made a three weeks' visit to the Melbourne and Brisbane, Australia, offices of K-C and returned impressed with Australian cities, its peoples and the potential of Australia generally. . . . **EUGENE OLSON**, marketing dir., Market Research, Cellucotton Div. of K-C, has made appointments to newly created posts on his executive staff: **HARRY J. SHEERIN**, former East Central Div., sls. mgr., is product mgr., all wadding products. Asst. product mgrs. under Sheerin are **JACK WILLIAMS**, Kleenex tissues; **PHIL LEEKLEY**, Kleenex table napkins; and **BOB EBERT**, Delsey toilet tissue. . . .

FOREST WHITMAN and **AUGUST**

Wedding Abroad; Appointment in Canada

BOB THOMSON, (left) Tech. Asst., Control Dept. Alliance Paper Mills climaxed a 2-year courtship with an English lass when he went over on his holidays to get married. Before the wedding he toured some of English mills with technical men from CPPA. One of highlights, he told PULP & PAPER, was visit to Croxley mills of John Dickinson & Co. Ltd., which has a double Fourdrinier.

PETER H. BELYEA (right) has been appointed Divisional Forester, Edmundston pulpwood division, Fraser Cos. in New Brunswick. He will be responsible for administration of 370,000 acres of woodlands. A graduate of U. of New Brunswick, he has been with Fraser since 1949.

THEN it's time to investigate SENTRY®—the first high speed, continuous moisture detector to utilize the dielectric property of paper in an entirely new electronic circuit—a circuit which produces a signal of greatly increased stability regardless of grade of paper. Used singly or in conjunction with an integrated control system, SENTRY provides the "missing link" in your quality control program. Full width scanning, of course. Write TODAY for literature. Laucks Laboratories, Inc., 1201 Poplar Place, Seattle 44, Washington.
SENTRYS *for Pulp, Paper, Softboard, Plywood, Lumber, Veneer.*

KNEEPKINS of Thilmany Pulp & Paper, Kaukauna, Wis., are thanking not their lucky stars but the hard hats they were wearing, when they were struck by a piece of falling slag, which saved them from serious injury. . . . **M. F. (MIKE) MATTSON,** safety supvr., M&O, International Falls, Minn., was given some good natured kidding recently from having his arm encased in a cast—result of a fall while on a fishing trip. No lost-time accident, he adds.

J. W. MEANS has been appointed as chief chemist of Chase Bag Co's General Lab at Chagrin Falls, O., as announced by **F. H. LUDINGTON, JR.,** vice pres. . . . **MRS. JOHN STEVENS, SR.,** 88, mother of **JOHN STEVENS, JR.,** pres. Marathon Corp., died Sept. 12, following a long illness.

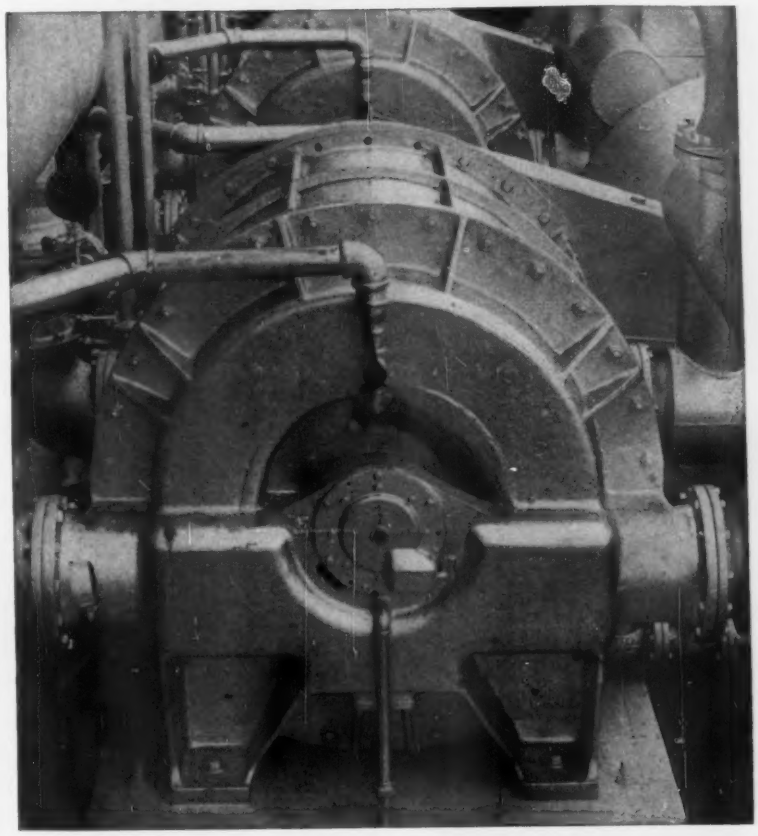
DAN P. MEYER has been appointed director of public relations for Consolidated Water Power & Paper Co., it is announced by Stanton W. Mead, president. Mr. Meyer, a graduate of U. of Wisconsin, joined the company in 1951. He is a veteran of World War II, is married, and the father of two children. . . . **C. J. WIECHERING** is new district manager of the northern territory of Wisconsin, for Oshkosh Engraving Co., announces **C. M. SCHLOESSER,** general manager of the company, national distributors of the new permatype printing plate, manufactured by Western Newspaper Union, Chicago, Ill. Mr. Wiechering has been active for 25 years in the graphic arts industry.

Notes from Northeast

THOMAS J. CARLIN has joined Eastern Corp. as supt. of its new kraft mill under construction at Lincoln, Me., says **T. RICHARD PROBST,** vice pres. and manager of mills for Eastern. Mr. Carlin is a native of Bangor and has a b.s. in chem. engr. from the U. of Maine. He's been in the kraft industry for 30 years; started with the Brown Co. and was most recently with Advance Bag & Paper Co.

Many friends of **J. W. ROHRBAUGH,** former purchasing director of P. H. Glatfelter Co., will be saddened to learn of his death. He was one of those who made West Coast trip on Pulp Consumers tour last year with his wife Beatrice. He started with Glatfelter 32 years ago as an office boy, was promoted in '29 to purchasing dept. and served on the management team from 1946 on. **ROSS S. LEONARD,** formerly assistant p.a., has been promoted to purchasing director. He's a grad of Gettysburg College and joined Glatfelter in 1948. He and his wife, Evelyn have two sons and a daughter and live at Spring Grove, R.D. 1, Pa. . . . **FRANK A. RILEY** has been promoted to assistant traffic mgr. of Rayonier Inc., reporting to **JOHN W. McCOR-**

High machine speeds? High temperature headbox stock? You need NASH Vacuum Pumps!



Air from the suction rolls on paper machines carries with it substantial quantities of moisture. This considerably reduces the effective air handling capacity of any vacuum pump except the Nash. In the Nash Vacuum Pump, because of the unique principle of operation, the bulk of this vapor is effectively condensed inside the pump. The total capacity of a Nash is therefore increased.

When you specify a Nash Pump it can be closely sized to the job. It is not necessary to select an over-sized unit, because the rated capacity of the Nash may be relied upon.

That is one of the reasons why Nash Vacuum Pumps are installed in over a thousand leading Paper Mills. An engineer from Nash will be glad to survey your mill, and make recommendations, entirely without obligation to you.

NASH ENGINEERING COMPANY

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MICK, traffic manager. He's based in New York.

JACK GRANT, vice president, Chemipulp Process Inc., recently toured pulp mills in England, France, Germany, Norway and Sweden to study pulping methods and equipment. He hopes to report on new developments in pulping techniques for U. S. and Canadian mills. He's also president of Chemical Chemipulp Process, Ltd. . . . **JOHN E. COWLES,** formerly comptroller, St. Regis Paper Co., has been elected treasurer to succeed the late **WILLIAM H. VERSFELT. HAROLD F. STEVENS** succeeds Mr. Cowles as comptroller. **JESS S. BARBER, JR.,** becomes assistant treasurer.

Incidentally, St. Regis recently distributed some 2,283 service awards to employes with the company five or more years. Two Deferiet mill employes, **ENRICO H. PARAGONA** and **CARL F. STEVENSON,** received 40-year emblems, set with 8-pt. cut diamonds. Total New England pins were 293, and in the New York office some 116 emblems were received. . . **JACK E. WILBER,** former technical service engineer has been promoted to director, technical services. St. Regis, Deferiet, N.Y., and will coordinate research and development, technical service to manufacturing and technical service to customers. . . . **MILTON R. ROBERTS,** former chief chemist at Jacksonville, is now project coordinator to supervise research and development projects assigned to specialized labs within the St. Regis organization and outside. . . . **JAMES B. SISSON** is now supervisor of research and development; **DONALD M. FERGUSON,** supervisor of technical service to manufacturing. He was formerly special assistant to the general supt. at Deferiet. . . . **GORDON L. BENSON,** former chief chemist at the East Pepperell mill, is now supervisor of technical service to customers. **HAROLD N. LOGAN,** former asst. chemist, is now chief chemist at East Pepperell. . .

CHARLES E. PETERSON is now supervisor of quality control for St. Regis. He was formerly group leader for kraft paper. **HARVEY E. SWEETLAND** has been transferred from the production dept. at Kalamazoo to post of group leader for customer technical service for printing, publication and converting paper div., Deferiet. . .

J. LYNNE FERNER, manager, West Virginia Pulp and Paper Co.'s mills at Tyrone and Williamsburg, Pa., announces a new relations director there, **DAVID**

Homecoming in Ontario

JACK S. GILHAM (left), Mill Mgr., Crabtree Mills, Que. (Howard Smith Paper Mills Ltd.), was shown some of changes in Merritton, Ont., by GEORGE S. WILSON (middle), Vice Pres., and BILL STIDWILL (right), Prod. Supt., Alliance Paper Mills at Merritton, when Mr. Gilham made his first trip back to his home town of Merritton since moving to Quebec many years ago. Occasion was to attend Fall meeting of New York-Canadian Supts. at Niagara Falls, Ont.

Real desire for service, backed up by true New England craftsmanship makes high quality knives an every-day occurrence with B & B.

- Quality pays. A careful look at the finish of B & B knives shows the skill and craftsmanship going into their production.
- Quality is more than surface finish, and selection of the best steels available for the job you are doing starts the knife off right.
- Quality results from hand heat treating by skilled men in accurately calibrated equipment.
- Quality comes from a respect for the most up-to-date methods combined with old-fashioned pride in craftsmanship.

B & B DIVISION
LODDING ENGINEERING CORP.
UNION • NEW HAMPSHIRE

The Beloit Album

Paper machine previews; plans for a rebuild; and a special photo report on the unique Dard Hunter Museum at the Institute of Paper Chemistry, Appleton, as seen by the Beloit camera's roving eye

NEW BORING AND MILLING MACHINE in Beloit Iron Works' south shop attracts attention of visitors from Georgia Kraft Company, Macon, Georgia. Examining a partially machined press part are (*l to r*) Ray Johnson, Georgia Kraft engineer; Howard Rosenow, Beloit general welding foreman; Dick Gallup, Georgia Kraft plant engineer; John Redgrave, Beloit sales representative; Louis Dennis, Beloit staff engineer; Jack Frost, Georgia Kraft master mechanic; Don Horton, machine operator.

DESIGN DISCUSSION on Nekoosa-Edwards Paper Company's new 165-inch fine-paper machine. (*l to r*) B. L. Kassing, production planning manager, Nekoosa-Edwards; E. D. Beachler, vice president, Beloit; C. H. Reese, vice president, Nekoosa-Edwards; F. G. Ramsden, assistant sales manager, Beloit; D. R. Simonds, vice president, Beloit; C. C. Parvin, manager manufacturing operations, Nekoosa-Edwards; C. M. Sigvardt, Nekoosa mill manager.

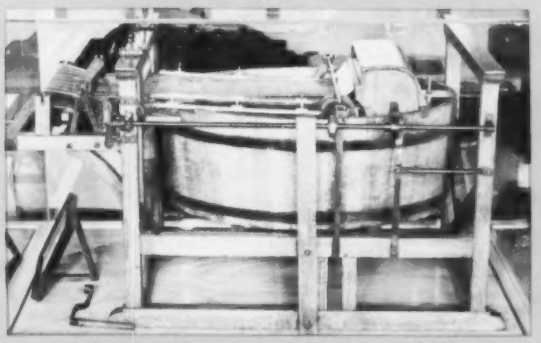
ENGINEERING CONFERENCE centers around rebuild of the Champion Paper and Fibre Company's #22 machine at Pasadena, Texas. Rebuild will include suction pickup arrangement and installation of complete differential drive. (*l to r*) R. R. Forrest, from Champion Paper's general offices, Hamilton, Ohio; G. Forrest, Beloit staff engineer; R. Kent, chief engineer, Texas Division, Champion Paper; and D. R. Schamp, Beloit sales engineer.

Dard Hunter Paper Museum

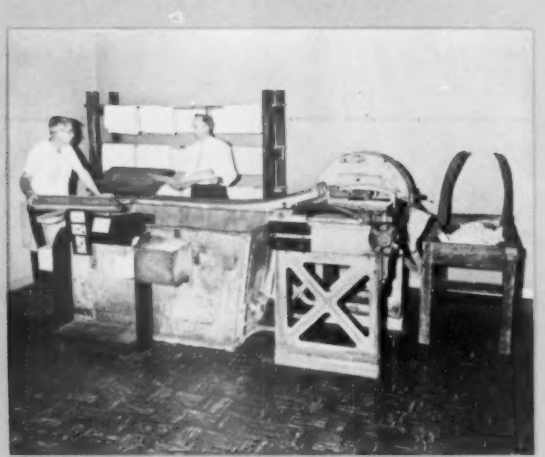
One of the most unique museums in the world can be found at the Institute of Paper Chemistry, Appleton, Wisconsin. Dard Hunter established the world-famous Paper Museum in 1939 with the hope of stimulating interest in the ancient craft of papermaking and promoting understanding of present-day paper and its relation to the graphic arts. Museum was first located at Massachusetts Institute of Technology, Cambridge. In 1954 it was acquired by the Institute of Paper Chemistry, and was moved to its present spacious, well-lighted, air-conditioned quarters at Appleton. The English light-and-shade watermark, above, is found on one of the many examples of handmade paper displayed at the Institute. See other views on this page.

MAIN ADMINISTRATION BUILDING, Institute of Paper Chemistry, Appleton, Wisconsin. The Dard Hunter Museum is housed in the basement of this modern building.

EXHIBITS in this area comprise molds for papermaking from all parts of Asia, including original type of woven mold used at the time of the invention of papermaking in China, second century A.D. Walls are hung with early Chinese wallpapers and ancient paper currency.



SCALE MODEL built from Nicolas-Louis Robert's plans for the papermaking machine. This device, invented in 1798, revolutionized the paper industry. Using this machine a semi-skilled workman could produce ten times the amount of paper produced by the hand-mold method.



VAT, LIFTING BOX and Knotter dating from 1832 are demonstrated by Dr. Irving H. Isenberg (*l*) and John W. Swanson, Institute staff members. Thus equipped, three skilled workmen could produce four to six reams a day.

JAPANESE VAT and mold, presumably for the production of paper windows for old-time Japanese homes. One such mold, shown here with Marcia Pheifer, library assistant, is capable of producing sheets measuring 30 x 70 in.

CENTRAL FIBRE PRODUCTS COMPANY's Denver Superintendent, G. L. Hendershot *(center)*, discusses the grinding of suction roll packing with F. R. Erbach, Beloit sales engineer *(left)* and M. F. Cook, Beloit erector *(right)*. Mr. Cook's hand is resting on a silencer strip.

SIXTY-INCH VAT provides background for shop conference on Beloit's main erecting floor. Shown with Ralph Wilkins *(c)* vice president, Bird and Son, are Dick Smith *(r)* and Cash Whipple *(l)*, Beloit sales engineers. Mr. Wilkins visited Beloit to discuss jobs now in process for Bird.

SHOWER OF SPARKS marks the pouring of the first dryer in the new dryer and roll-casting shops, Beloit Iron Works foundry. The second cupola began production after Labor Day, and by the time this issue of the Beloit Album reaches you Beloit's new foundry on the banks of the Rock River will be in full-scale production.

VISITORS FROM ABROAD, Jean Arguillere *(c)*, mill director of Papeteries de La Chapelle, France, and Dr. Rudi Wettstein *(r)*, director of Paper Industries, Ltd., Zurich, with Beloit representative C. K. Pfrangle, at Beloit. The dryer back frame shown is similar to the one being installed on La Chapelle's new 290" newsprint machine.

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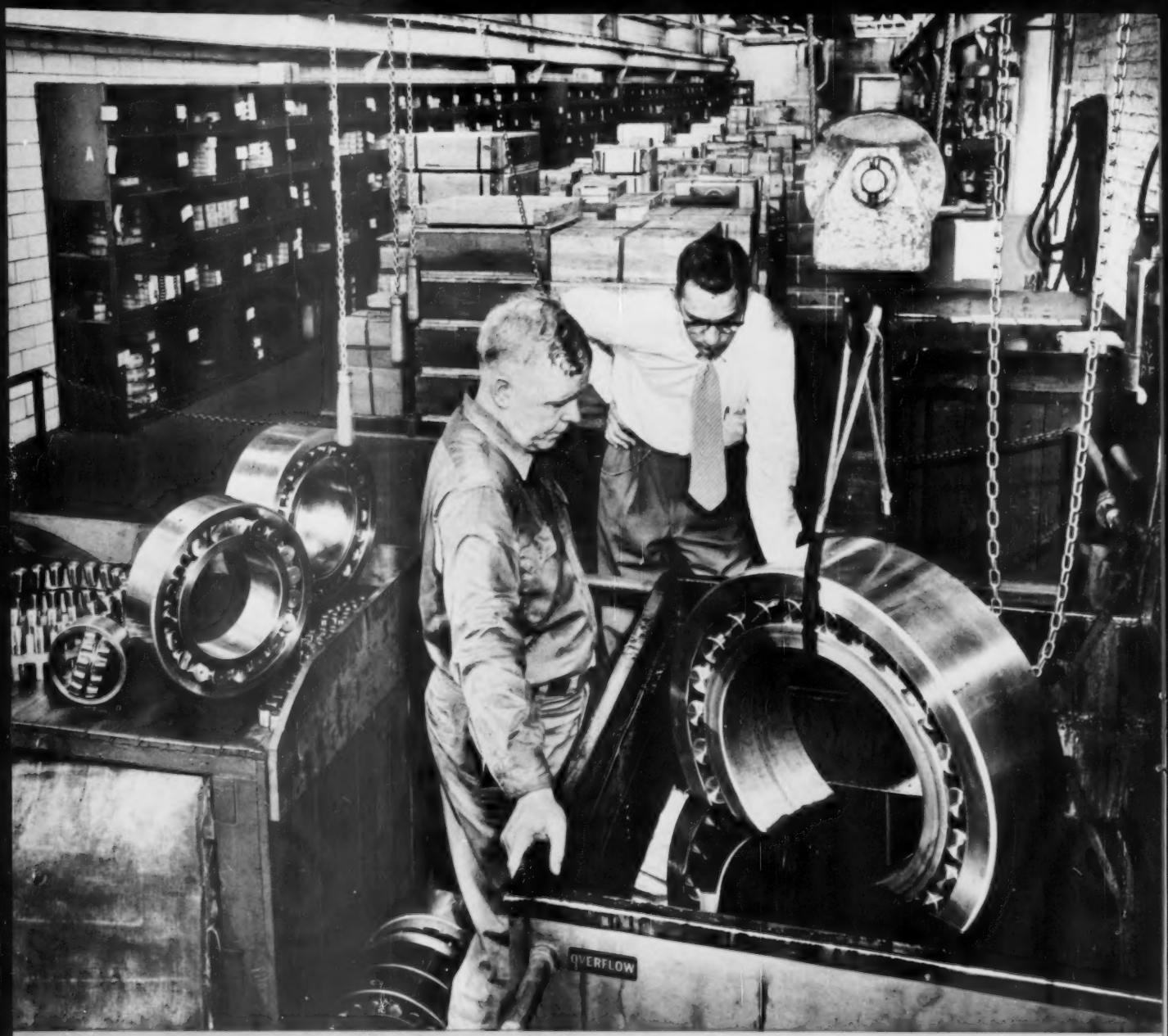

J. W. MILLER

INSPECT, CLEAN, REWRAP. Bob Zuehlke, bearing buyer, and Melvin "Red" Cobb, bearing stockkeeper, are shown at the cleaning tank with a suction roll bearing in the bearing stock room, Beloit Iron Works, Beloit, Wisconsin. This stock room is maintained exclusively for storage of bearings. Although humidity is strictly controlled, each bearing is periodically checked, cleaned, and rewrapped in special papers to insure against any rust or corrosion. Beloit's bearing inventory covers all types and sizes of bearings used on Beloit machines. The largest bearing is a 29½" bore double row spherical bearing for a suction couch roll. This bearing weighs 1654 pounds. The smallest bearing is a ½" bore needle bearing weighing only a few ounces for use in guides. This impressive bearing inventory enables Beloit Iron Works promptly to supply emergency needs of its customers. Another view of Beloit as "your partner in papermaking."

your partner in papermaking

BELOIT

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WHEN YOU BUY BELOIT . . . YOU BUY MORE THAN A MACHINE

M. HUNTER, formerly with Paper Trade Journal. Alco, seven West Virginia men have been named to new posts: **HENRY MOOSEKER**, moves from general supt. in charge of production to general supt. at Tyrone. He and his wife, Lorraine, and their three children live at 100 Springs, Tyrone. He joined West Virginia in 1940 as a chemist and has a b.s. in ch. engr. from City College, New York. . . . **WILLIAM McMINN**, former tech asst. to paper mill supt. at Tyrone, advances to paper mill supt. He joined the company in 1941 and has a b.s. in ch. engr. from Carnegie Institute. He and his wife, Alma, live with their two children in Hillcrest, Tyrone.

LEROY FISHER moves from Williamsburg to Tyrone to become technical asst. to paper mill supt. He started in 1949 as a chemical engineer in the pulp mill. The Fishers and their one youngster will live in Tyrone. . . . **PERRY BARTSCH**, in charge of market research and financial analysis, will also head up accounting functions of both mills. He started in 1951 and has an a.b. in b.a. and his m.b.a. from Harvard. He also studied law three years at N.Y.U. He and his wife, Betty, live with their one child in Tyrone. . .

KENNETH HUNT, formerly tech. dir. at Williamsburg, Pa., for West Virginia, was promoted to gen. supt. A 15-year man, he is a '35 grad of Bucknell U. and has his master's in chemistry. . . . **WOODROW W. STULTZ** advances to post of technical director at Williamsburg. He joined West Virginia in 1950 as a chemist and has a b.s. in ch. eng. from Pennsylvania State U.

JULIA C. EMIG, secretary to Chairman of the Board **NORMAN W. WILSON**, Hammermill Paper Co., became the company's first woman to serve 50 years. She was hired by co-founder **ERNST R. BEHREND** in 1905 as a replacement for **FLORA NICK**, who had just "become the bride of a rising young Hammermillite, Norman Wilson." Hammermillites place her name in nomination as First Lady of the Paper Industry." Any challengers?

Incidentally, belated congratulations to Mr. and Mrs. **NORMAN W. WILSON**, who recently celebrated their 50th wedding anniversary. . . . **DON LESLIE JR.** has joined Hammermill as administrative staff asst. to Vice Pres. **JOHN ZINK**. . . . **DON T. JACKSON**, technical director, tickled pink over completion of technical division's $250,000 remodeled offices and labs. . . . **HAROLD L. RUSSEL**, formerly with Minneapolis-Honeywell, is now eastern regional manager of the data reduction and automation div., Fischer & Porter Co.

J. H. "PETE" HEUER, formerly manager of research and control at Great Northern Paper Co., has been promoted to assistant manager of manufacturing.

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Far West Flashes

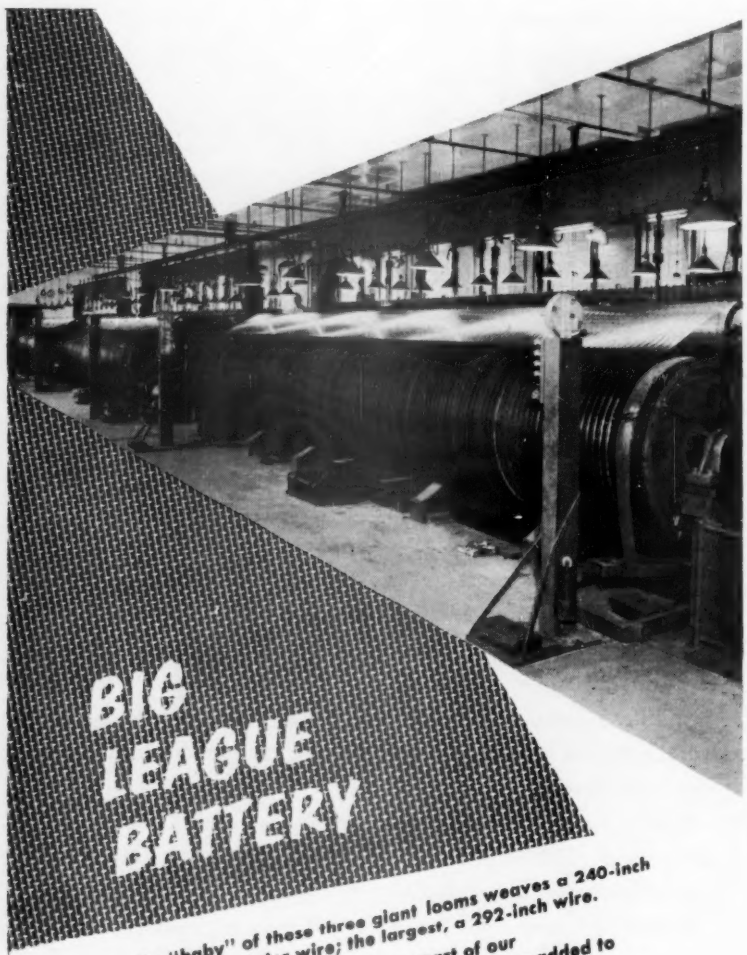
LYMAN YOUNG, power supt. and Mrs. Young from Ketchikan Pulp were in Seattle in late summer enjoying a vacation. . . . **WILLIAM NANNY** is new asst. power supt. at Weyerhaeuser, Longview, replacing **WILLIAM SCHUKNECT,** newly appointed power & recovery supt. at WTCo's Cosmopolis mill. . . . **E. J. CAVANAUGH,** formerly with CZ at the Port Angeles, Wash., mill and later transferred to Antioch, Calif., has been made general supt. at Antioch. . . . **DICK LAWTON,** supervisor of industrial and community relations at CZ's Camas mill, is new president of the Camas Chamber of Commerce.

DR. THORSTEN STREYFFERT, dean of Royal School of Forestry, Stockholm, Sweden, is at Oregon State College as visiting professor of forestry. . . . **JAMES P. PHILLIPS,** 41, men's personnel supervisor of Crown Z Camas div. died Sept. 17 at Port Angeles following an extended illness. He first joined Crown in 1934 and received the supervisory rating at Camas in 1952. . . . **L. D. McGLOTHLIN,** Camas CZ sulfate mill supt., took on the extra special assignment of giving the bride away—Miss Mary K. McGlothlin, his daughter, in marriage to John M. Grant, Jr. . . . **JOHN FULTON,** corporate representative and director of purchases for Crown Z, Portland, is responsible for several phases of United Fund campaign in Lower Willamette Valley, Oregon's populous area. He is the district's associate general chairman, member of board of directors and member of advance gift division team.

THE FLYING McGREGORS—Gen. Supt. GEORGE H. McGREGOR, Columbia River Paper Mills, Vancouver, Wash., and daughter WAUNA McGREGOR, Stewardess of Western Airlines. Mr. McGregor chairmanned the national sulfite pulping committee of TAPPI for several years and was formerly with Minnesota & Ontario Paper Co. and Weyerhaeuser.

DAN P. ASHTON, asst. tech. supervisor at West Linn mill, transferred to CZ's St. Helens plant as tech supervisor . . . **WM. F. CYRUS** was promoted to asst. tech. supervisor at CZ West Linn . . . **H. C. HALL,** former tech. supervisor at CZ St. Helens, promoted to asst. supt. of converting, shipping and finishing. . . . **PETE TARANOFF,** tech. asst. to paper mill supt. at St. Helens CZ mill, advanced to asst. supt. of paper machines and beater room . . . **ARTHUR F. NEWCOMB** advances from paper mill supt. to supt. of paper machines, converting, finishing and shipping at St. Helens.

SYDNEY HAAGESON, former asst. nesia base pulping cycle at Weyerhaeuser plant engineer at Publishers' Paper Co., has been promoted to plant engineer, taking on former duties of the late **ERNST H. SCHWEITZ** . . . **H. S. DANIELS,** president of Georgia-Pacific Paper Co., announces the following have joined the organization for its plant under construction at Toledo, Ore., reporting to res. mgr. **BILL SHELTON;** mill engr. **ALAN D. ANDERSON,** recently with Los Alamos Scientific Laboratory (AEC) and prior to that with Longview Fibre Co.



The "baby" of these three giant looms weaves a 240-inch width fourdrinier wire; the largest, a 292-inch wire.

This latest battery of looms — part of our continuing modernization program, — was added to serve the demand for increasingly large wires.

However, much smaller wires are still important to the greater part of the paper manufacturing industry, and our efforts are directed to producing — regardless of size — the very finest wires our 79 years of experience allow us.

EASTWOOD-NEALLEY CORP. BELLEVILLE NEW JERSEY

10 years as pulp mill engineer; chief electrician **R. W. HEMSWORTH,** former asst. chief electrician for Publishers' Paper Co., will work with Sandwell & Co., General Electric Co. and Central Lincoln County PUD on electrical aspects of engineering and construction until plant start-up; Supt. of Raw Material Supply **EDMUND ERICKSEN,** former chip procurement engineer at Longview Fibre; controller **A. H. JONES,** also formerly with Longview Fibre.

FRANK B. MILES, named asst. to supervisor of public relations, CZ headquarters, was previously a mediator of Federal Mediation & Conciliation Service at Memphis . . . **JOSEPH L. GUTHRIE,** CZ St. Helens project engineer, transfers to Crown's Central Engineering, Seattle, as project engineer . . . **WARREN C. JAMES,** electrical engineer of CZ's Central Engineering, promoted to plant engineer at CZ St. Helens mill . . . **HUBERT E. FRANSON,** chemist at Port Townsend mill, becomes tech. asst. to paper mill supt. at CZ St. Helens . . . **O. HENRY JEWEL** promoted from machinetender to paper machines shift supt. at CZ St. Helens.

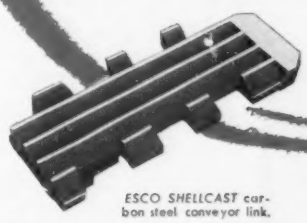
GLEN D. KING, asst. res. mgr., CZ West Linn, recently took the management course at Northwest University, in Chicago . . . **J. S. BARTON,** CZ Western-Waxide director of packaging, research and development at San Leandro headquarters, and **P. T. DICKIE,** technical control and quality supt., CZ West Linn, took course on supervising scientific and engineering personnel at Calif. Institute of Technology, Pasadena, during Sept.

SAM RUNYAN, retirement plan administrator CZ Camas, has been appointed a member of Washington state governor's Committee on Aging . . . **CLARK PETTIT,** adv. mgr., consumer products, CZ headquarters, participated as instructor at 5-day advertising workshop sponsored by San Francisco State College and Advertising Club of San Francisco for teachers . . . **KENNETH F. SHAMPINE,** asst. converting supervisor of CZ Carthage mill, transfers to Los Angeles plant as asst. converting supt.

A P&P editor had pleasure of a short visit with **RALPH P. McDONALD,** who is **manufacturing manager of the board division** of the new Fibreboard Paper Products Corp. (Fibreboard-Pabco merger), and **DR. GEORGE E. MARTIN,** new young technical director of the board division, who hails from Wisconsin mills. They were touring Northwest Fibreboard mills. They report to **MARK E. SANFORD,** new vice president and gen. mgr. of the board division. **LES MULLINS,** based at Stockton, Calif., gets around, too, in his capacity as paper machine specialist for all the Pabco-Fibreboard mills. . . .

GEORGE CROPPER, for many years manager at Shelton for Rayonier and now

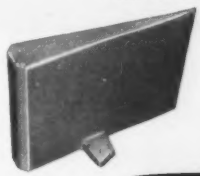
BEFORE YOU SAY, "IT CAN'T BE CAST" . . . call an *ESCO* engineer!



ESCO SHELLCAST carbon steel conveyor link.

ESCO SHELLCAST Valve Linkage Levers. Alloy steel **Type 317, A296- 49T CF-8M.**

ESCO SHELLCAST Heat-treating Vane tip. Alloy steel **Type 302B, A297-49T HF.**



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In Canada, *ESCO* Limited Manufacturing Plants
Vancouver, B.C., and Toronto, Ontario.

STRICTLY PERSONAL

consultant to all the Rayonier mill managements, and his wife, Kate, have made banana freighter cruises to Central America twice in the past two years and they say "it's the life." Their son Fred is entering Stanford U., an older boy, Don, is in the wire rope business in California. . . . **CHRIS KREIENBAUM,** veteran retired top production executive of Simpson Logging Co., who came back to work to help plan the new Simpson-Fibreboard redwood pulp and board mill at Eureka, Calif., saw Seattle's Seafair hydroplane races from the yacht Flamingo, formerly the state governor's. Also in the party aboard were **WINSTON SCOTT,** mgr. of Rayonier's Shelton mill, and **LOUIS VAN ARSDALE,** Shelton plant engineer. . . .

EVA MAE KING, wife of **G. D. KING,** assistant resident manager of CZ West Linn plant, died early in August following an extended illness. In addition to Mr. King she is survived by a daughter, Mrs. Etta Mae Ayoub at Corvallis. . . . **BURTON R. COLKETT,** vice president and secretary of Fibreboard Products Inc. since April, and vice president for a short time of the merged Pabco and Fibreboard Cos. died recently. A native of Seattle, where he was born 62 years ago this December, he joined Fibreboard and Zellerbach Paper Co. as joint credit manager after serving in France with the signal corps in World War I.

NELSON HARTNAGEL, asst. manager of the Fibreboard Products mill at Port Engeles, spent his vacation at Lake Chelan in the Cascade Mts. . . . **MYRON SCOTT,** office manager at Rayonier, Inc., Port Angeles, went back to idyllic Orcas Island, which has become a vacation habit with him. . . . **H. A. SPRAGUE,** retired asst. manager for Rayonier at Port Angeles, and now on a consulting basis, has "discovered" Florida—although it is a long way from Washington state, and in his trailer has made a couple of tours there. . . .

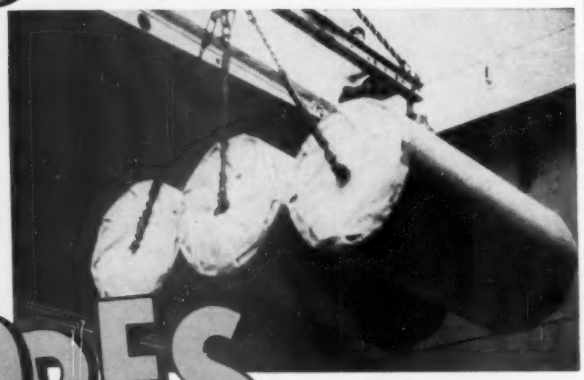
IRVING R. GARD, 72, sales engineer and owner of the Irving R. Gard & Co., Seattle, representative in the Far West for many years for pulp and paper equipment, died in late September in Seattle after a long illness. Born in Columbus, O., he moved west after graduating from Ohio U. He represented Merrick Scale Mfg. Co. for many years. . . .

BRUCE M. FERGUSON, pulpwood buyer, and **DAVE SMITH,** credit union president, both of Weyerhaeuser Timber Co., Longview, are the Republican candidates for state representative from Washington's 18th district. . . . **STANDISH H. HARRISON,** ind. sls. mgr., Pacific Coast Region, Westinghouse, has been awarded the Westinghouse Order of Merit . . . **RICHARD H. RICHMOND** has been appointed asst. res. mgr. of the Port Angeles, Wash., Div. of Rayonier Inc. He has been with Alaska Pine & Cellulose Ltd., Vancouver, B.C., a Rayonier subsidiary, since graduation from U. of British Columbia in 1933 . . . **ALLAN L. JOHNSON** has been added as a Far West sales rep for John W. Bolton & Sons, Inc., Emerson Div., and will report to **O. E. LARSEN,** mgr. of Bolton-Emerson's western region.

H. B. LACKEY, research chemist-product research, promoted to product research supervisor, CZ Central Research Dept. . . . **RICHARD H. ADAMS,** temporary technical assistant at Lebanon, became chemist group leader of new development-uncoated grades at CZ West Linn plant . . . **R. L. GAISER** advanced from chemist group leader of new development-uncoated grades to technical assistant to coated paper supt. at CZ West Linn . . . **WARREN THOMAS,** assistant supt.-printing at CZ's Western-Waxide North Portland plant, promoted to plant supt.

TOUGH

PAPER MILL AND SPECIALTY CORES



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DEPENDABLE SOURCE OF SUPPLY

Column from Canada

ROBERT J. ASKIN, vice pres., development and engineering, Abitibi Power & Paper Co., has been made responsible for six of the company's major departments—research and development, technical operations, engineering, purchasing, traffic and special products. . . . **LESLIE CLEMINSON,** former gen. mgr. cellulose division, Alaska Pine & Cellulose, has been named assistant to Mr. Askin. . . . **ERNEST W. McBRIDE,** manager of mills, is now responsible to the president, **DOUGLAS W. AMBRIDGE,** for manufacturing operations at all Abitibi and Provincial Paper Co. mills.

COL. ARTHUR A. SCHMON, pres. of Quebec North Shore Paper Co., is given much of the credit for establishing a $150,000,000 smelting operation on the St. Lawrence River in the Manicouagan district. Firm believer in the area's potential ever since at the age of 30 he was made a top executive of the late Col. R. R. McCormick's Ontario Paper Co., Col. Schmon met members of the giant British Aluminum Co. during business trips to the United Kingdom, and paved the way for later negotiations with the Quebec government which resulted in the big industrial development.

M. J. FOLEY, pres. of Powell River Co. and chairman of the western branch Canadian Forestry Assn., and **H. R. MacMILLAN,** of executive committee, MacMillan & Bloedel, were among the British Columbians who attended the tenth annual congress of Canadian Forestry Assn. in September. A panel member at these sessions was **H. G. WRIGHT,** chief forester, Canadian Forest Products.

L. G. HARRIS, mgr. of Harmac division, MacMillan & Bloedel; **R. M. COOPER,** vice pres. and res. mgr., Powell River Co., and **DR. J. L. KEAYS,** tech. supervisor, Powell River Co., were among West Coast reps who toured the British Isles mills in September. Some of the delegates representing Eastern Canadian mills were **L. R. BEATH,** Price Bros. & Co.; **D. G. CURRIE** and **DR. R. MONTIGNY,** E. B. Eddy Co.; **D. C. CURRIE,** Howard Smith Paper Mills; **J. B. JONES,** Ontario Paper Co.; **R. M. MURLEY,** Bowater's Newfoundland Pulp & Paper Mills; **E. L. NEAL,** and **CHARLES TITTEMORE,** Anglo-Newfoundland Development Co.; **MARC ROLLAND,** Rolland Paper Co.; **J. W. WING,** Gaspesia Sulphite Co. The party planned to visit more than 20 mills in England and Scotland and one in Northern Ireland.

G. J. C. HODSON, treas.-controller Crown Z Canada in Vancouver, B.C., has been elected president of the Vancouver branch of the Controllers Institute of Canada. . . . **ANGUS MacBEAN,** chief forester of MacMillan & Bloedel, and **HECTOR STONE,** Hillcrest Lumber Co., accompanied a Canadian industry delegation to Soviet Russia to inspect forest operations. On their return they reported that there was little that Canadians could learn from the Russian methods of harvesting wood. . . . **K. H. KLEMM** has re-

New Appointments at Dryden

R. M. BISHOP (left) has been named Assistant to Mill Manager of Dryden Paper Co. at Dryden, Ont.; W. E. HAVILAND (middle) is the new Assistant to the General Supt., and J. F. O'CALLAGHAN (right) has been named Field Engineer in Plant Engineering Dept.

Pres. E. Lorne Goodall says that doubling of production following present expansion program necessitates additional staff. Mr. Bishop has recently been with Anglo-Canadian Pulp & Paper Mills. Mr. Haviland has been at Dryden since 1950 when he started as a laboratory assistant. He has been Control Supt. two years. Mr. O'Callaghan, a Univ. of Dublin graduate, worked on construction projects in Ireland before going to Canada.

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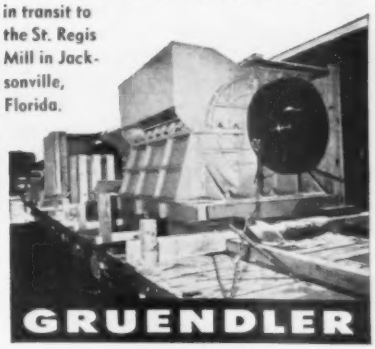
Craftsmen in steel plate and alloys up to 1"

Two large capacity GRUENDLER BARK HOGS in transit to the St. Regis Mill in Jacksonville, Florida.



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BARK HOGS

ARE RATED UP TO
80 TONS PER HOUR

Five Recent HOG Installations by Gruendler:

- Eastex Mills
- St. Regis Mills
- BC Forest Products
- Alaska Pine & Cellulose
- Northwest Pulp & Paper

Photo above shows the Gruendler BARK HOG installation at the Eastex Mills in Evadale, Texas. Operating under maximum efficiency, the HOG receives bark straight from the barking drums, crushes it uniformly and conveys it directly to the boiler room. In one operation, this HOG crushes bark and wood refuse to a uniform fuel size for use in the plant's power boiler.

Gruendler BARK HOGS utilize the renowned Gruendler Swing Hammer principle. There are no knives, hence no sharpening problems, yet the size of the ground-up wood waste can be controlled to an unvarying degree. Gruendler BARK HOGS, featuring all-steel construction, easily serviced roller bearings, new tramp metal catchers for all models and a motor driven "lube" system, will more than pay for themselves in one year.

Gruendler also manufactures Chippers, Re-Chippers, Sawdust and Shavings Pulverizers and complete equipment for waste wood utilization. Write for Catalog.

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PULP & PAPER

NEWS FROM CANADA

RUSSIAN VISITORS . . . A recent visitor to Powell River Co's big newsprint mill in British Columbia was Alexander Ishkov, minister of fisheries for Soviet Russia. He was accompanied by many officials and experts.

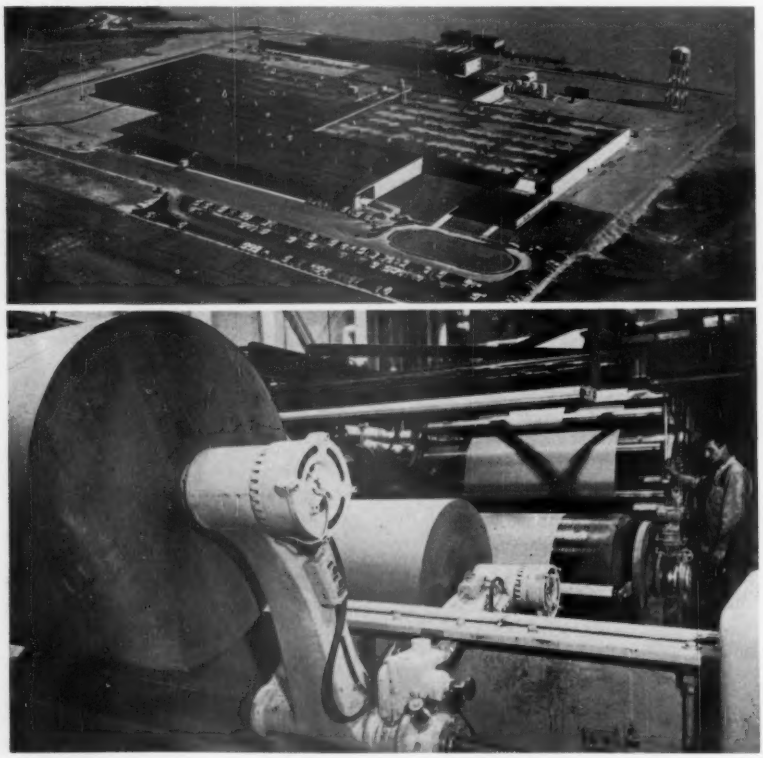
Main purpose of their tour through Canada was to visit fishing operations, but Mr. Ishkov was particularly interested in the Powell River machines, especially the new No. 9 unit now being installed at an overall cost of $20,000,000. He asked many questions through an interpreter and indicated a technical knowledge of the processes that somewhat surprised his Canadian hosts.

Dr. John L. Keays, Powell River superintendent of research and development, who mastered the Russian language at McGill University and has done considerable work as a translator for the American Chemical Society, said:

"The leaders of the Kremlin, for whatever reason, appear desirous of more personal contact with the West and have evinced a surprising willingness to exchange of ideas on many phases of mutual interest. I have noticed this changing trend in Russian technical journals in the past two years."

As an instance of this trend, Dr. Keays says that there was a featured descriptive article on Powell River's No. 8 machine in a Russian industrial publication. Insertion of foreign advertising was another manifestation of the changing Russian scene.

"The Russian journals are publishing an increasing number of technical articles from Canadian and American pulp and paper publications, either in complete or abstract form," reported Dr. Keays. "If applied technology in the Russian pulp and paper field is inferior to that in the U.S., Canada and the Scandinavian countries, the same thing cannot be said of fundamental research. The quality of Russian research, particularly in the field of pulping, is probably the equal of that found anywhere."



WESTERN CANADA'S BIGGEST . . . In largest single-story industrial operation under one roof in Western Canada, (air view at top) Crown Zellerbach Canada's new $4,500,000 converting and paper box plant at Richmond, near Vancouver, B.C., covers eight acres. Inside the big plant is the largest Langston corrugator in Canada (pictured below) where huge rolls of kraft and sulfite paper from Ocean Falls, B.C., receive final processing at rate of 15 to 20 mi. per 8-hr. shift.

A group of Russian foresters and lumbermen planned to visit Canada in October, returning a visit to Russia made by a delegation of Canadians.

FIRST MEETING OF KIND . . . M. J. Foley, president of Powell River Co., and H. R. MacMillan, director, MacMillan & Bloedel, both of Vancouver, B.C., played an important part at the National Forestry Congress in Winnipeg recently, the first gathering of its kind in Canada in 50 years.

Mr. MacMillan criticized the conference, saying that it should be more representative of the general public as well as government and industry. "We're merely talking to ourselves here," he said.

Mr. MacMillan suggested that another national forest conference be held in the next two or three years that would have more universal participation. He and other speakers deplored the apparent apathy of government in forest assistance.

Mr. Foley emphasized importance of the tree farm movement and urged its extension in Canada.

OPENS LULU ISLAND PLANT . . . Crown Zellerbach Canada has opened its new $4,500,000 paper converting and paper box factory at Richmond, Lulu Island, ten miles south of Vancouver, B.C. It is the largest single-story industrial operation under one roof in Western Canada, occupying 8½ acres on a 24¾ acre site.

Except for the office and shipping section, the sprawling building is without windows, the lighting being by 400-watt mercury lamps. Warehouse and shipping facilities include a specially designed unloading ramp, two rail spurs and truck loading platforms.

Feature of mechanical equipment is a Langston corrugator, largest in Canada. It produces about 15 to 20 miles of 96 in. wide corrugated paperboard in a normal 8-hr. shift (something less than its full capacity). It is one of the primary units in the box plant which has a capacity of 25,000 tons a year.

The Langston corrugator has a continuous running double-backer which enables the machine to remain in operation while rolls are being changed or settings of various knives are altered to meet varying order specifications. In effect, this causes the corrugated board to double back on itself in a number of folds, thereby providing sufficient "slack" to be taken up by the section of the machine which continues running while other parts are stopped.

Another feature is the only gummer in British Columbia, built to specifications of company engineers.

Chemicals Column

Pulp and paper—3rd biggest consumer of chemicals

"It is a cellulose clothesline on which many chemicals are hung"

FLINTKOTE IN CHEMICALS . . . The Flintkote Co. enters the chemical field by taking over U.S. Lime Products Corp., largest lime producers in the West. Explains Flintkote President, I. J. Harvey: "The move is a natural one, because, as a building material, lime fits in with Flintkote's present line." U.S. Lime's annual sales are currently around $5,000,000.

OFFSHORE SULFUR MINING . . . Freeport Sulphur Co. will undertake the first completely offshore sulfur mining operation at a deposit in the Gulf of Mexico, discovered by Humble Oil & Refining Co. It is in 45 ft. of water, six miles from land, and according to presidents of the two companies, Hines H. Baker of Humble and Langbourne M. Williams of Freeport, it is a major new source of sulfur. The Frasch hot process will be used. The sulfur was found about 1700 ft. below the floor of the Gulf in the caprock of a salt dome, and is known as the Grand Isle deposit. It will be the first sulfur mining operation to be conducted in the open waters of the Gulf.

PROMOTION AT DOW . . . Fred K. Quigley, Jr., head of technical service and development work in connection with latex paints since 1953, has been advanced to the position of asst. mgr. of Coatings Technical Service, Dow Chemical Co., N. R. Peterson, mgr., announced.

WATER-BASE ANTIFOAM . . . A new antifoam product, believed to be the first water-base liquid antifoam, is being introduced by National Aluminate Corp. Nalco 71-K was developed especially for foam control in pulp and paper mills. Technical data and samples are available from Nalco at 6229 West 66th Place, Chicago 38.

"VIGOROUS EXPANSION" . . . Dow Chemical Co. has embarked on another round of "vigorous expansion" and expects to spend substantially more than $75 million this year, says Dr. Leland I. Doan, president.

POLYETHYLENE RESIN—A Petrothene polyethylene resin is offered by U.S. Industrial Chemicals Co. as an excellent moisture barrier coating. The trademarked Petrothene product is said to have high production rates, excellent adhesion and no odor, plus low cost, high water vapor resistance and good heat sealing properties. For more information write U.S. Industrial Chemicals Co., 99 Park Ave., New York 16, N.Y.

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Bundled Logs At West Linn Mill

Crown Zellerbach Corp. has started construction of facilities for handling bundled logs at its West Linn, Ore., wood mill. All logs used at this plant are water transported and most of them arrive in bundled form, according to Res. Mgr. M. J. Otis.

With completion of this project the log bundles will be removed intact from the water and placed on one of two steel decks specially built for this purpose. There the bundles are to be broken, thus preventing sinking of heavy type logs as occurs when loosening logs in the water.

Plant Engineer J. M. Moak says the project will include installing a 60-ton Ederer bridge crane for handling bundled logs, two steel decks on which logs are to be placed and steel conveyors for transporting logs from decks to the wood mill.

General Construction Co. holds contract for building the concrete foundations and Pacific Car & Foundry Co. is to supply the fabricated steel.

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only The DECULATOR offers *COMPLETE* Deaeration—

Deaeration brings many benefits to paper-making such as better drainage, improved quality, increased production, reduction of additives. But to enjoy these in the fullest degree, it is vital to achieve *complete* deaeration which is assured *only* by the Deculator. 75 installations to date testify to the 100% effectiveness of the Deculator and the Deculator-Cleaner process.

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Northwestern Supts. Elect New Officers

JOE J. JENKINS (left), Northwest Paper Co., Cloquet, Minn., was elected Chairman of the Northwestern Div., American Pulp & Paper Mill Supts. Assn., for 1956-57 at the Fall Meeting held in Wausau, Wis., ARTHUR H. BUNKS (right), Consolidated Water Power & Paper Co., Appleton, Wis., was elected First Vice Chairman.

Elected with them were LAWRENCE M. GIBSON, Kansas City Star Co., Flambeau Paper Div., Park Falls, Wis., Second Vice Chmn.; JOHN HYATT, Rhinelander Paper Co., Rhinelander, Wis., Secy.-Treas.; FRANK KREILING and PAUL WEST, both of Thilmany Paper Co., Kaukauna, Wis., and LARRY W. MURTFELDT, Consolidated Water Power & Paper Co., Wisconsin Rapids, Wis., elected Trustees. JOHN McPHERSON, Mosinee Paper Mills Co., Mosinee, Wis., was retiring Chairman. Attendance at the meeting was approximately 300.

New Posts for Rogers, Guthrie

JOHN R. ROGERS (left), former Asst. Vice Pres., J. & J. Rogers Co. in Au Sable Forks, N.Y., has joined Carthage Machine Co., according to NATHANIEL P. WARDWELL. Rogers was Sulfite Mill Supt. for Rogers from 1933 to 1945 and Paper Mill Supt. to 1954 when he became Asst. Vice Pres.

JACK D. GUTHRIE (right) has joined the Southern sales and service staff of Chemical Linings, Inc. He will cover southern, southeastern area and will headquarter in Atlanta, Ga. He's a '49 grad of North Carolina State College; was most recently with St. Regis Paper Co., Woodlands Div., Jacksonville. Also in the South is MURRAY H. BENNETT, Chemical's Chairman of the Board, who moved last year to Jacksonville.

LATEST LIFT TRUCK DESIGNS are bookleted by Hyster Co. and feature 25 different Hyster industrial truck models and other handling products. It's yours by writing Hyster at 2902 NE Clackamas St., Portland 8, Ore.

"TEMPER EXPANSION"

"Unless expansion is tempered with good judgment as to timing, the industry could face some of the economic disturbances for which it has been noted in the past."—**DAVID L. LUKE, JR.**, president of APPA and president of West Virginia Pulp and Paper Co.

"PAY AS GO"

"This industry has used its success to pay for most of its expansion. Most of scheduled future expansion will come out of retained earnings and depreciation, with some financing being undertaken."—**DR. LOUIS T. STEVENSON,** former economist for APPA, now pulp and paper specialist, Tucker, Anthony Inc., investment house.

ELECTION DAY CAPSULE

"It was individual freedom and the right of free choice which contributed most to the growth of America."—**COLA G. PARKER,** president of National Assn. of Mfrs. and former president and chairman of Kimberly-Clark Corp.

DO AS STEEL INDUSTRY DOES

"If there is a failure on our part it is in failing to keep newspaper publishers informed of the cost picture. The newsprint industry is in many ways similar to the steel industry, with very high capital investment per unit produced. The steel industry has put a great deal of effort into explaining its cost problems to its customers and to the public. Obviously our industry must do more of this."—**M. J. FOLEY,** president, Powell River Co.

KEY QUESTION

"Pulp, paper, plywood, hardboard, insulation board—all are in the throes of a surge of added capacity. . . . The growth of markets promises to justify these expansions sometime in the future. The key question, of course, is how soon will they be justified? Increasing capacity beyond what the going market can absorb can only result in greater competitive pressure on prices and profit margins."—**J. P. WEYERHAEUSER, JR.,** president of Weyerhaeuser Timber Co.

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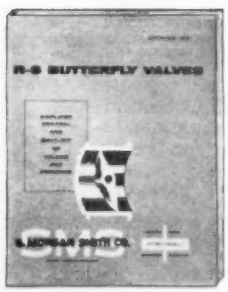

This new catalog will give you complete dimensions, specifications, layout drawings and materials for all R-S Butterfly Valves in the pressure ratings that have been standardized to date. As others are added, new sections will be published. To get a free copy and assure yourself of future sections, contact your SMS representative, or write to S. Morgan Smith Company, York, Pennsylvania.

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In Industry News

DR. A. L. M. BIXLER (left), former Upper Mills Mgr. of N. J. mills of Riegel Paper Corp., has been named to new post of Mgr. of Paper Prod. at Carolina Div., headquartering at Acme, N. C. FERRI CASCIANI (middle) has been named Supervisor of Tech. Service of Hooker Electrochemical Co., devoting full time to pulp and paper. ROSS S. LEONARD (right) has been promoted to Purch. Director, P. H. Glatfelter Co.

Statement required by the Act of August 24, 1912, as amended by the Acts of March 3, 1933, and July 2, 1946 (Title 39, United States Code, Section 233) showing the ownership, management, and circulation of Pulp & Paper, published monthly except in July when publication is semi-monthly at Bristol, Connecticut for October 1, 1956.

1. The names and addresses of the publisher, editor, managing editor, and business managers are: Publisher, Wm. B. Freeman, 121 Second Street, San Francisco 5, California; Editor, Albert W. Wilson, 1791 Howard Street, Chicago 26, Illinois; Managing Editor, None; Business Manager, Ralph R. David, 370 Lexington Avenue, New York 17, New York.

2. The owner is: (If owned by a corporation, its name and address must be stated and also immediately thereunder the names and addresses of stockholders owning or holding 1 percent or more of total amount of stock. If not owned by a corporation, the names and addresses of the individual owners must be given. If owned by a partnership or other unincorporated firm, its name and address, as well as that of each individual member, must be given). Miller Freeman Publications Incorporated, 121 Second Street, San Francisco 5, California; Wm. B. Freeman, Miller Freeman Jr., 121 Second Street, San Francisco 5, California; L. K. Smith, W. E. Crosby, 71 Columbia Street, Seattle 4, Washington.

3. The known bondholders, mortgagees, and other security holders owning or holding 1 percent or more of total amount of bonds, mortgages, or other securities are: None.

4. Paragraphs 2 and 3 include, in cases where the stockholder or security holder appears upon the books of the company as trustee or in any other fiduciary relation, the name of the person or corporation for whom such trustee is acting; also the statements in the two paragraphs show the affiant's full knowledge and belief as to the circumstances and conditions under which stockholders and security holders who do not appear upon the books of the company as trustees, hold stock and securities in a capacity other than that of a bona fide owner.

Wm. B. Freeman,
Publisher

Sworn to and subscribed before me this 1st day of October, 1956.

[Seal] Barbara M. Hampson
San Francisco, California

My Commission expires February 18, 1958.

EQUIPMENT & SUPPLY NEWS

BOLTON BUYS COWLES . . . John W. Bolton & Sons, Inc., Lawrence, Mass., has purchased the assets of Cowles Co. Inc., Cayuga, N. Y., as a further step in broadening its products and services. Further development of the engineering know-how of the Cowles company in the field of pulp and paper process equipment will be continued by the Bolton-Emerson organization. Edwin Cowles, inventor of specialized pulp and paper machinery, and former president of Cowles Co., will join the Bolton staff.

NEW MANAGER . . . Ray E. Frase has been named mgr., Special Products Dept., Signode Steel Strapping Co., Chicago. As head of this recently created department, he will direct promotion of Signode Addison-Semmes Expendable Pallets, Adjusta-Pak, and other new products for packaging and materials handling.

CONTINUOUS VACUUM-TYPE HORIZONTAL FILTER is featured in Dorr-Oliver Inc's new bulletin, "The Oliver Horizontal Rotary Filter." Data on: design, operation, sizes and capacities, plus a typical two-stage washing flowsheet and photos. More than 300 installations have been made to date. Write for your copy to Dorr-Oliver Inc., Barry Place, Stamford, Conn.

PNEUMATIC CONTROLLERS are subject of The Bristol Co's. new booklet A130, on their series 500W Pneumatic Controller, with more than 75 photos and drawings describing the new high sensitivity, wide control-band controllers for temperature, pressure, flow, vacuum. Features include control band width ½% to 400%, precision linkage allowing reassembly and recalibration with one adjustment and reset action stops. Your copy is at Waterbury 20, Conn.

DETERMINE ABSOLUTE TENSION OF RUNNING FELTS on paper machines is the promise of F. C. Huyck & Sons if you use their new Huyck-Meter. These are not for sale but when your Huyck salesman comes "huycking" your way ask him to demonstrate it.

TOO MUCH SCRAP PAPER AND BOXES? Here's a way out of the dilemma, worked out by Ford Motor Co., which handles about 20 tons a day. It's the Balemaster Cyclomatic developed by East Chicago Machine Corp. Skids feed cartons into a power-driven "pinch type" conveyor with heavy duty rubber belts. A hogger reduces the cartons to small scraps and the chopped-up stock is moved by air through a 15-ft. pipe to a cyclone and by gravity into a feed chute. An electronic device starts the baling cycle as the hydraulic ram recedes, allowing a column of paper to fall into the bale chamber. After compression, the paper is then bound into a 70-in. bale. Capacity is 64 bales per 8 hour day. Results: storage problem eliminated and substantial reduction in costs.

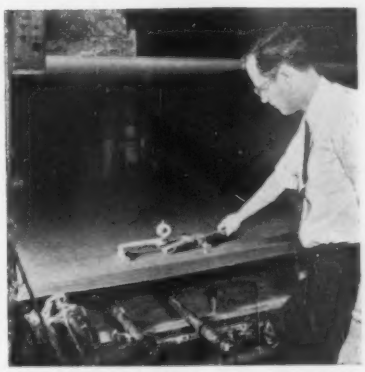
CHEMICAL FEEDING EQUIPMENT for treatment of waters and wastes is featured in "Neusol" Feeder bulletin No. 340-A by Infilco Inc., Box 5033, Tucson, Ariz. This is a compact solution feeder incorporating either one or two positive displacement diaphragm pumps. Both feed up to a 5% chemical slurry solution and will handle corrosive solutions. Infilco has also added a new A-D hydraulic switch for control of hydraulic cylinder operated valves of all types. Advantages: no water lines required; almost instantaneous in response; diaphragm is only moving part; little maintenance required.

EXPLOSION AND CORROSION PROOF ACCESSORIES can now be added to the Beckman L/B infrared Analyzer to enable safe operation in most explosive and corrosive atmospheres. Full data for your own requirements can be had by writing Process Instruments, Beckman Instruments, Inc. at 2500 Fullerton Rd., Fullerton, Calif. Ask for bulletin 495.

DRY PAPER FASTER, BETTER says the Appleton Machine Co., Appleton, Wis. How? Use their Cram balanced differential dryer drainage system. Features: simple in design, no traps, no heat recovery coils, no flash tanks, can be installed quickly. Benefits: removes condensate, air and non-condensable gases from dryers as soon as formed; maintains uniform temperatures across dryer face; brings quantity of steam to dryers necessary for uniform drying of sheet with proper moisture content, etc.

NEW WESTERN OFFICE. Clark-Aiken Co. has opened an office at 114 East Union St., Pasadena, Calif. W. R. (Bill) Perry, a native Californian is in charge.

MOVE FOR PANDIA. Pandia, Inc., division of Black-Clawson Co., has moved its administrative, engineering and sales offices from New York to Hamilton, Ohio. Moving to Hamilton are Tany Agronin, vice president and Ron G. Goodwin, sales manager. Frank C. Duvall, formerly assistant chief engineer of the Shartle Div., is now chief engineer for Pandia. A regional sales and service office will be kept at 250 Park Ave. in New York.



TENSION OF FELTS on paper machines can be determined by this Huyck-Meter, developed by F. C. Huyck & Sons. It shows degree of tension which permits proper openness, maximum water removal and longer felt life. Available only from Huyck service engineers.

SYNTHETIC-REINFORCED COTTON DRYERS in widths to clothe all paper machines in the U.S. are being produced by Scapa Dryers, Inc., at its new mill in Waycross, Ga. Also in production are Scapa's new Syntho-Asbestos dryer felts. Donald M. Brass, executive vice president is in charge of the plant and Morey Paper Mill Supply Co., Fitchburg, Mass., is exclusive U.S. sales agents.

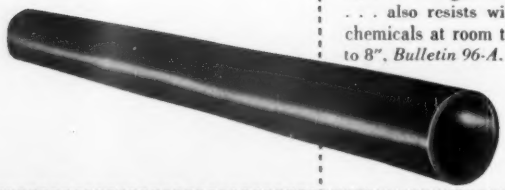
TWO NEW CHEMICALS, "Panalon" WS, a resin finish for the paper industry and "Alkanol" HCS, a surface active agent, have been announced by DuPont's Dyes and Chemicals Div. The former is a wet strength resin for kraft paper, toweling and tissue and can be applied at the dry end. The latter is a nonionic surface active agent; is an excellent detergent with low foaming properties and may be used as a retardant and leveling agent in dyeing processes, etc.

DYNAMIC RECORDING OSCILLOGRAPH that produces instantly-readable records through a completely new direct-recording principle has been announced by the Heiland Div. of Minneapolis-Honeywell Regulator Co., Denver, Colo. Called the Visicorder, it combines high-frequency and sensitivity characteristics of photographic oscillographs with convenience of a direct-writing instrument. Designed for 115-volt, 60-cycle operation; 10 in. high, 14 in. deep and 10 in. wide; Price: $2,500, less galvanometers. Further data from Heiland at 5200 East Evans Ave., Denver 22, Colo.

FOR HOT CORROSIVES:

ACE TEMPRON

Heat-resistant nitrile hard rubber pipe handles inorganics at 250-275 deg. F. . . . also resists wide range of organic chemicals at room temperature. Sizes 1" to 8", *Bulletin 96-A.*



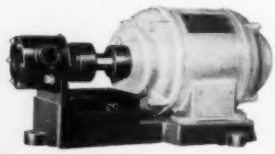
ACE chemical equipment

"more resistant to more corrosives"

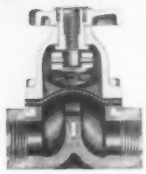
From this "super-market" of corrosion-resistant equipment . . . backed by more than a century of engineering experience . . . you can select with confidence.

MIGHTY MIDGET

for pumping acids



Jabsco neoprene-impeller pump made of ACE hard rubber outlasts, out-pumps anything in its pressure, size and price class. Capacity from 15 gpm. at 22 ft. head to 5 gpm. at 72 ft. head. *Bulletin 97-A.*



VALVES

for all-plastic piping systems

Trouble-free plastic diaphragm valves . . . choice of general-purpose rubber-plastic blend, Ace Parian (polyethylene) or Ace Saran. Handles most corrosive chemicals and food ingredients. Sizes ½" to 2", 50 psi. at 77° F. *Bulletins 80 and 351.*

1001 USES *for ACE-FLEX Tubing*

Excellent chemical-resistant, all-purpose flexible plastic tubing. Sparkling clear, easy to clean, odorless, non-toxic, can be steam-sterilized. ⅛" to 1" ID. *Bul. 66.*

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ONE MONTH VISIT TO SCANDINAVIA

for young engineer with Kraft mill experience, interested in immediate employment as supervisor of start-ups and field work on Kamyr Continuous Cooking Units.

Must be willing to travel extensively.

Answer to: K. Dahl, Kamyr, Inc., Hudson Falls, New York.

SALES ENGINEER

Leading manufacturer of PULP AND PAPER machinery in sales of pulp mill and stock preparation equipment, has opening for qualified engineer as representative in Southwestern states.

Good starting salary, excellent insurance and bonus arrangement.

Submit complete resume of experience education, and personal history.

Reply Box 281, PULP & PAPER, 370 Lexington Ave., New York 17, N. Y.

PULPING AND BLEACHING

Excellent opportunity for man with broad pulping and bleaching experience research department of nationally known integrated kraft pulp, paper, bag and container manufacturer. Salary open. Southern location in city of 65,000. Send complete resume. All replies strictly confidential. Write Box 278, PULP & PAPER, 370 Lexington Ave., New York 17, N. Y.

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Position Wanted

CHEMICAL ENGINEER, age 36, with 12 years Scandinavian experience in kraft, sulfite linerboard and bleaching interested in U. S. position, preferably on West Coast. Specially interested in recovery processes. At present technical director. Write for resumé to "Technical Director," c/o Export Advertising, Stockholm 1, Sweden.

CHEMIST WANTED

Experienced Kraft Pulp and Paperboard Chemist or Chemical Engineer for large eastern mill. Permanent position with expanding organization. Attractive vacation, hospitalization and retirement plans. Reply to Box 282, PULP & PAPER, 370 Lexington Ave., New York 17, N. Y.

Mechanical Engineers for Paper Machine Development Program

SPRINGDALE LABORATORIES —DIVISION OF TIME, INC., plans to develop a high-speed paper machine (3000 f.p.m.) to produce uniform quality magazine paper. This program calls for something far different than a bigger and better Fourdrinier! We have the funds, the patience, and a real need for such machines. We need mechanical engineers who have at least four years of design and operating experience in news or kraft mills running over 1600 f.p.m. to assist with the design of a pilot plant, model machines, and the test running of models. Salary open. Please send a *detailed* resume to:

Mr. P. J. Thoma
Springdale Laboratories
835 Hope Street
Springdale, Connecticut

(For a description of our laboratory, see PULP & PAPER, July 1954, Pages 36-39.)

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Chief Sandusky

FERROUS AND NON-FERROUS CENTRIFUGAL CASTINGS FOR ROLL SHELLS, COVERS, AND LINERS . . . . . .

A centrifugal casting that will successfully resist heat, corrosion, or abrasion is no "hit or miss" proposition. It's the direct result of a combination of important factors determined before the casting itself is made.

That's where our research department steps in. Experienced technicians work in direct conjunction with your specific problems or needs. They make sure your ferrous and non-ferrous cylindrical castings get the proper start. Quality control, from raw material through final inspection, checks all remaining factors. Machining facilities for turning, boring, and drilling is an additional service.

If you're not sure of the right combination for your present or proposed needs, our technical aid is immediately available to you.

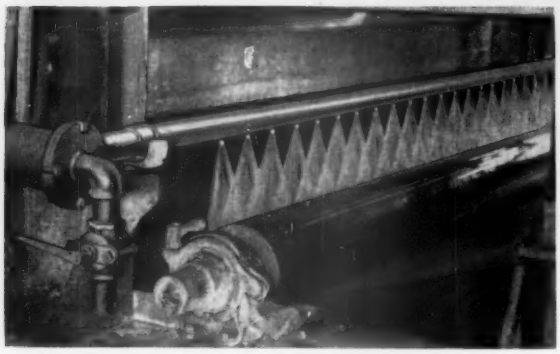
Chief **SANDUSKY CENTRIFUGAL CASTINGS**

FERROUS AND NON-FERROUS

SANDUSKY FOUNDRY AND MACHINE CO., Sandusky, Ohio

FORCEFUL
UNIFORM
EFFICIENT SHOWERING

WITH FRESH WATER OR WHITE WATER



DeZURIK SHOWERS

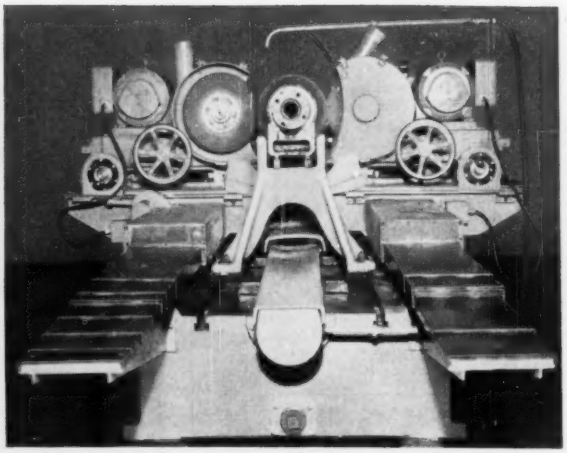
do not employ deflectors to rob the spray of washing force. The direct, fan-shaped spray strikes the surface at higher velocity —cleaning more effectively with less water. Large openings in the spray nozzles retard clogging—there are no sharp corners where material from white water can pack and clog. Strainers, furnished with the shower, eliminate hard, abrasive material from the spray—preventing damage to wires or felts. Stainless steel nozzles are easily replaced, giving the equivalent of a new shower at a fraction of the cost. DeZurik Showers are successfully operating on cylinder molds, wires, felts, flow-boxes, screens, washers, save-alls, pulp-grinders—Wherever efficient, uniform showering is demanded.

DeZURIK CLEANABLE TRIM SQUIRTS

completely eliminate "down time" to clean or replace a clogged squirt. They clean instantly—a quick press on the plunger—a stainless steel pointer cleans the orifice and springs back! No loss of production time, less broke, more paper on the reel!

OTHER DeZURIK MILL-PROVED EQUIPMENT: the Easy-Operating, Non-Lubricated PLUG VALVE, the Automatic Stock CONSISTENCY REGULATOR, and the Proportional SEWER SAMPLER and FLOW-METER. Write for details.

DeZURIK SHOWER CO.
SARTELL, MINN.



DESIGNED ESPECIALLY FOR THE SMALL MILL

...This New #3 Type GHV

LOBDELL

ROLL GRINDER

...offers these outstanding features:

- Wider and heavier bed and carriage construction.
- Inverted Vee-ways . . . stronger, better lubricated.
- Metallic telescoping way-covers give full protection.
- Crowning device . . . newly designed to give full range of desired crown curves.
- Choice of A.C. or D.C. electrical equipment to suit mill needs.
- Grinding wheel mounted on end of wheel spindle for quick wheel change.
- Handwheel control on side of wheel-head permits observation of work while feeding wheel.
- Coarse and fine feed of wheel at operator's choice.
- Automatic wheel infeed to compensate for wheel wear on chilled iron.
- Self-contained wheel spindle . . . forced feed lubrication with oil pressure control.

Maximum simplicity of design for fool-proof and error-free operation so far as effective design can help . . . maximum accuracy of result on both iron and rubber covered rolls. Dust collection equipment available (not illustrated here).

Capable of grinding rolls from 6" to 32" or 36" and with face length according to bed length . . . weighing 16 tons or less.

Write for detailed information on this new #3 Type GHV LOBDELL Grinder.

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The DRAPER Felt

DRAPER BROTHERS COMPANY
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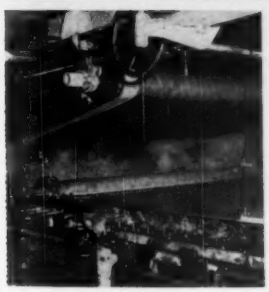

announcement . . . . . .

Increase Paper Production with DUPASQUIER DRIPLESS STEAM SHOWER BOX

- Preheats the Web
- Changes Water Viscosity

THUS FREEING WET MAT

- Allowing speed increase

Custom Built for Any Machine

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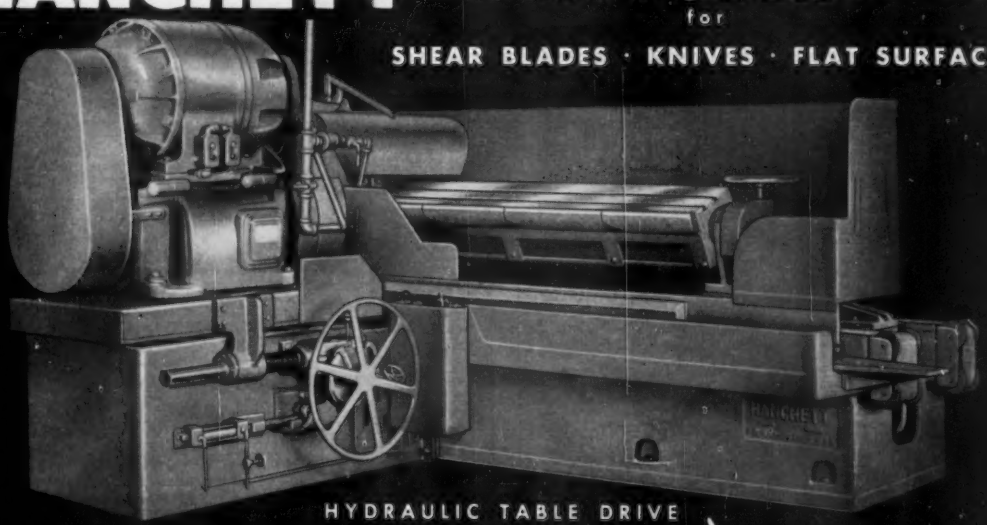
HANCHETT new HY-POWER grinder

for

SHEAR BLADES · KNIVES · FLAT SURFACES



HYDRAULIC TABLE DRIVE

MOTORS: 30 h.p. to 75 h.p. CAPACITY: 60" to 296"
GRINDING WHEELS: 30" or 36" diameter segmental
FULL AUTOMATIC CONTROLS • POWERFUL • ACCURATE

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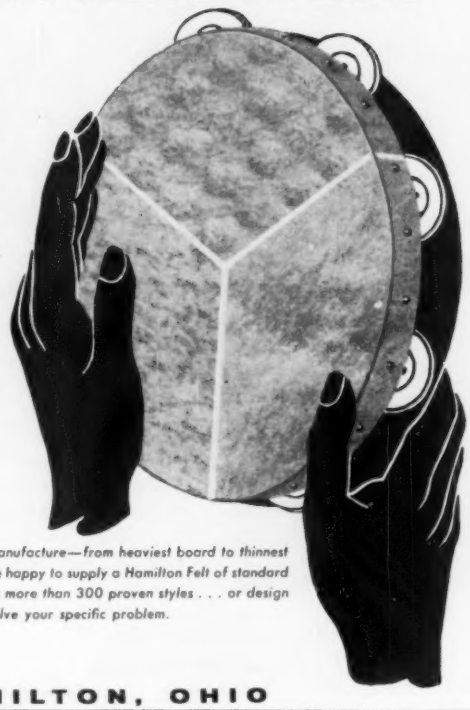
You can't beat HAMILTON Felts . . .

for INCREASING MILL EFFICIENCY from the wet end of your machines to the drier rolls

WITH wages at an all time high manufacturers of paper and board are faced with the task of making the only kind of savings now possible—*operational* savings. . . . Hamilton Felts help make this possible. *Want to prove it?* Adjust the bearings of your least efficient machine. Regrind the rolls, if necessary, for perfect alignment. Install a Hamilton Felt—then speed up! . . . As the web passes through the press, Hamilton Felts will remove so much water that little steam will be needed. . . . Stronger sheets will be formed free from soft spots and felt marks.



HAM FELTZ says: *You can get a paper maker's cap like mine FREE for your son, daughter, or grandchild just by writing me on your company's letterhead at the address below. The cap is adjustable—fits any head size and carries a SAFETY SLOGAN. Supply limited. No obligation. Write me today.*

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MIAMI WOOLEN MILLS Established 1858

Whatever you manufacture—from heaviest board to thinnest tissue—we will be happy to supply a Hamilton Felt of standard construction from more than 300 proven styles . . . or design a variation to solve your specific problem.

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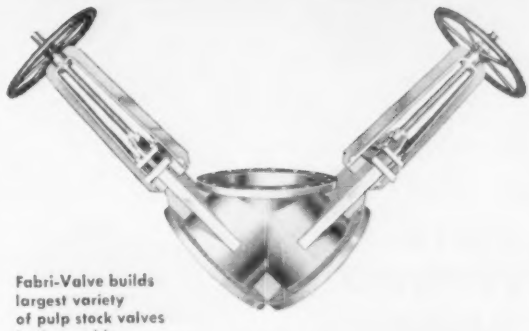

Fabri-Valve builds largest variety of pulp stock valves in the world.

16" Siamese Valve

A typical design-engineered valve to meet the need of the rapidly expanding Pulp and Paper industry. This Siamese Valve fabricated from stainless steel with mild steel trim is to be used to divert stock from one chest to another. Use of the Siamese Valve restricts pressure lost, saves space and saves cost by combining two valves into one.

This unique custom-made valve is another example of how Fabri-Valve's versatility and experience in fabrication can meet your specific need. Other Fabri-Valves are available in stainless steel, monel, nickel or any combination to meet your requirements in sizes from 2" up. All Fabri-Valves cost less, weigh less; and, of course, are cheaper to ship and install.

For complete information on how you can save money on custom-made or standard Fabri-Valves contact your nearest distributor.

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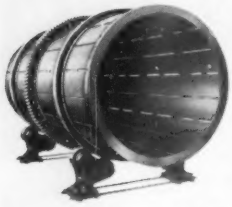
heavy duty equipment

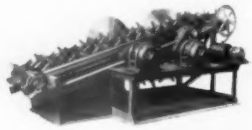
for today's high production demands!



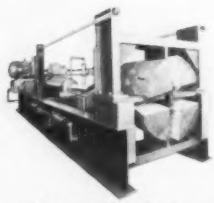
MURCO BARKING DRUM

The smooth interior of the MURCO plate-shell type barking drum, with or without sprays, delivers cleaner wood with less maintenance, a minimum of bruising and a minimum of brooming. In it true barking action comes from the friction of log against log . . . no loss of wood and no dirt retention—heavy duty rugged design, requires less power to operate . . . made in six sizes.

MURCO PULPWOOD SLASHER



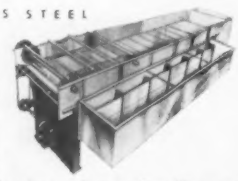
Engineered and built as equipment to do a particular job . . . complete piece of machinery that is built, erected and match-marked in our plant for erection in your mill . . . rugged and sturdy to withstand extremely hard usage . . . quick and easy change saw arbors . . . V-belt driven saws . . . furnished with any number of saws to cut any specified length stick of maximum diameter.



MURCO WOOD SPLITTER

For processing logs too large for the chipper, its capacity is approximately one log per minute . . . extremely heavy construction to properly support the entire assembly, the base is an all-welded design made from structural steel . . . equipped with a stationary axe that quarters the wood in one stroke to reduce handling and operations to a minimum.

MURCO STAINLESS STEEL FLAT SCREEN



For use on either Fourdrinier or cylinder machines, MURCO Stainless Steel Flat Screen is particularly adaptable for runing different colors and grades of paper and board stock—any operation where cleaning and preparing the screen for the next run demands continuous operation without loss of time . . . plate section can be removed entirely and replaced easily instead of taking up the plates . . . vat box tilts for rapid plate change or washing out . . . all parts in contact with paper are stainless steel. Built for 8, 10, 12 and 14 plates.

D. J. MURRAY MANUFACTURING CO.

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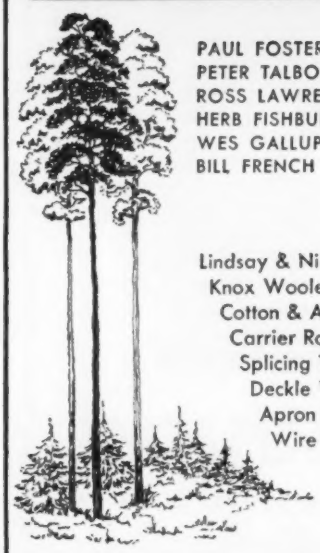
WILLIAMS-GRAY COMPANY 50TH ANNIVERSARY 1906-1956



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Knox Woolen Felts
Cotton & Asbestos Dryer Felts
Carrier Rope
Splicing Tissues
Deckle Webbing
Apron Cloth
Wire Brushes

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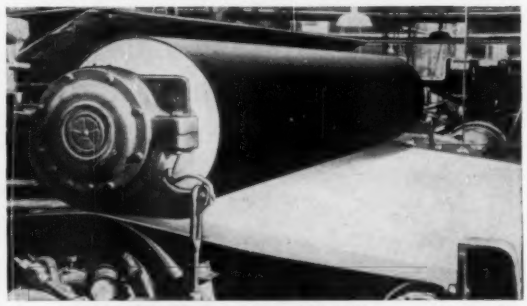

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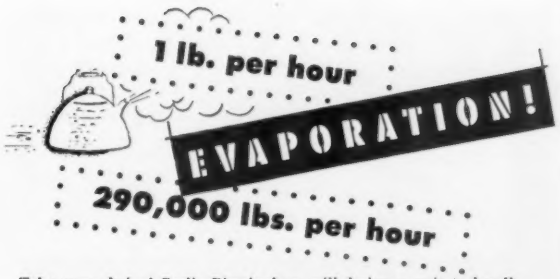

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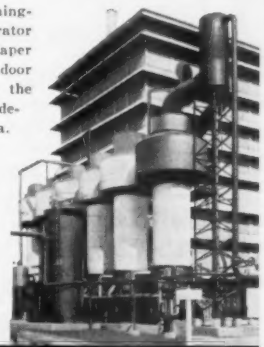

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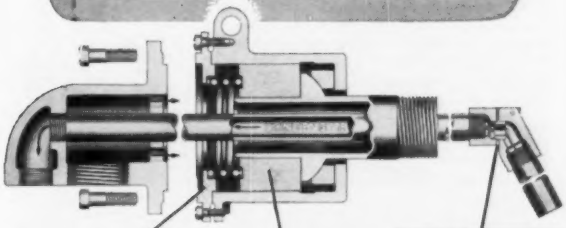

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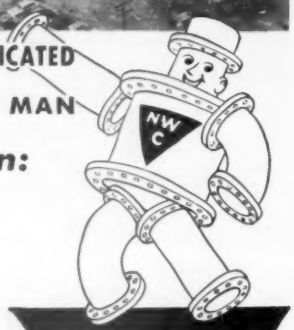

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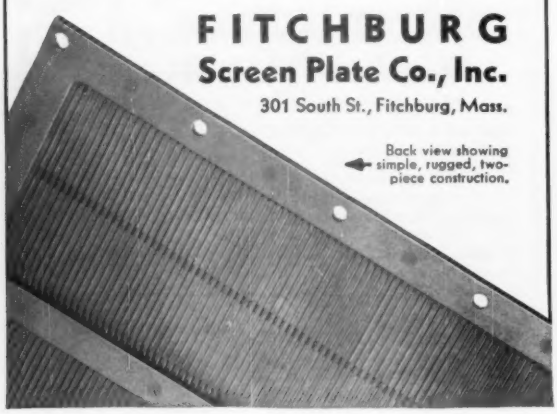

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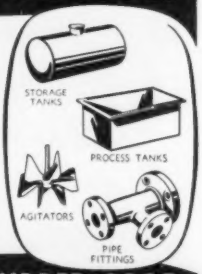

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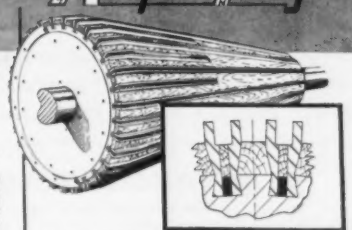

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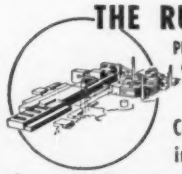
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The LAST WORD PULP & PAPER EDITORS' PAGE

The Engineering Conference—1946-56

For this industry to continue to progress, much depends on the engineers. At their first TAPPI-sponsored conference ten years ago, in Milwaukee, they were told by their keynoter, W. Irving Osborne, Jr., president of Cornell Paperboard Products Co., that the pulp and paper industry depends on its engineers to keep it competitive with light metals and plastics.

He made a prediction, which certainly came true, that wages and costs of materials would not go back to pre-war levels, and so it was up to the engineers to find improved methods and processes that would keep the industry competitive.

In this respect, this industry's future still is greatly dependent on the achievements of its engineers.

PULP & PAPER magazine has been well represented at all the Engineering Conferences–beginning with the one in Milwaukee.

Lawrence K. Smith, vice president of Miller Freeman Publications, and a founder of PULP & PAPER (30 years ago), was present at that memorable first meeting in Milwaukee. He was back in Boston for the 11th, just a few weeks ago. Just three days before the meeting he landed in New York from an extensive European trip, where he met and talked with many pulp and paper industry leaders.

Albert W. Wilson, editor of PULP & PAPER, a "regular" at the Engineering Conferences, was back again. Also at Boston were Ralph R. David, P&P's advertising sales manager, and Maurice R. Castagne, Eastern editor. Such a "blue ribbon" meeting of the industry engineers certainly deserved this attention.

Many leaders of that first meeting were back again, though not working quite as hard on the conference, as younger men have taken over their chairmanships, etc. These men who launched the Engineering Conferences, have seen it increase 50% in size and even more. Gunnar Nicholson has been called "the Father" of the conference, then there was George Wadleigh, "Bumps" Hemphill, Mike Jacobs, Jack Warner, Ed Burns, Paul Corning, Ronald Macdonald, "Monty" A. E. Montgomery, Dick Porter, Bill MacNaughton, Roy Whitney, George Pringle and others. Executives of Beloit Iron Works, Allis-Chalmers and A. O. Smith Corp. were hosts at their plants, and helped make Milwaukee a success, thus assuring the continuation of these meetings. Some of these conference "founders" have retired, and are on the sidelines, but many were back in Boston. It was nice seeing these old friends back again.

Foremen or Supervisors?

We are told that foremen don't like their title.

We haven't got around to asking them yet, but perhaps a straw in the wind is the decision of the National Association of Foremen to change its name to National Management Association.

Some pulp and paper mills are substituting the title of supervisor for foreman. Is that a more acceptable title to men who have such duties in the mills?

At any rate, it seems to be more indicative of the management role that is really their role in mill operations.

We get into many fixed habits which we would gladly reconsider if we gave the matter a little thought. It pays to stop and think of the titles that key staff men have in the mills. Sometimes they can be improved. Sometimes using the right title can be very important to morale, to the production results, etc.

It would be interesting to hear from foremen in this industry as to what they think of this question.

Education—Who Should Pay?

Who should pay for college educations?

The pulp and paper industry is paying for literally hundreds of higher educations, through direct scholarships, and help countless others indirectly.

So this industry has a stake in developments which took place in Chicago, recently. As PULP & PAPER has frequently reported, there is a serious shortage of technically trained men for this industry.

In looking through "High Road," which Rice Barton Corp. publishes, we noted these comments on the Chicago sessions attended by some 1,500 men and women, college and university presidents, deans and professors:

"They met to consider who should pay for college education, the student and his family, the community through government, private enterprise, or his future employer? They also wanted to know what caused drop-outs and found out that students seldom drop out for lack of funds.

"Many drop out because they lack either the ability or the desire to carry on the heavier work of advanced classes.

"They found that students from the top fifth of a high school graduating class will survive twice as long as students from the bottom fifth.

"Many thought that scholarship funds might better be used to hold students of proven ability than to lure freshmen to the campus.

"Careful studies revealed that the social standing of parents and their views on higher education have much to do with whether their children seek college education. A survey in Erie, Pa., showed that three-fourths of the parents who did not go to college were opposed or indifferent to higher education for their children.

"Professional and managerial groups send more than 50% of their children who are high school graduates. But only 25% of the children of farmers, factory workers, and craftsmen seek college-level training.

"One conclusion was reached that gifted children must be discovered and encouraged from among the lower grades."

Of course, under present tax laws, industry scholarship gifts make sense. But aside from the economics, isn't it preferable, where outside agencies do pay for educations, that it be done by industries, which cannot control the freedom of education.

Where governments pay, the wrong leaders will often find ways to control that education. And yet the rapid growth of population has created grave problems of inadequate educational facilities, and government aid, locally where possible, is urgently favored by many citizens.

The last Congress–Democratic–did some fancy tightrope walking in deciding the intertwined question of educational aid and education freedom in higher institutions by okaying an appropriation for college laboratories but not for classrooms.

•Early 18th Century Chinese Snuff Pot or Bottle with Yang-Yin symbol above a boar. From collection of Mrs. H. F. D. Davis.

This symbol (Yang-Yin) represents T'ai-chi, the old Chinese *Ultimate Principle*, and as such, *perfection*. As the Asten-Hill trademark it symbolizes the *best* in paper mill DRYER FELTS.

Name and Trademark Registered

ASTEN-HILL MFG. CO.
Philadelphia 29, Pa.
Walterboro, S.C.
Salem, Ore.

ASTEN-HILL LIMITED
Valleyfield, Quebec

PULP

Perkins-Goodwin Co.

Established 1846

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